

SERIES

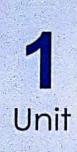


SCIENCE.

The Main Book

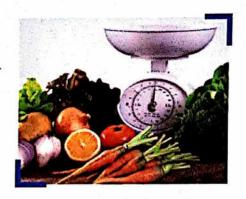
By A Group of Supervisors





Force and Motion

· Mass and weight.



2Unit

Thermal Energy

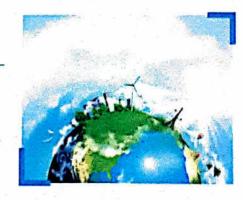
- 1. Heat conduction.
- 2. Measuring temperature.



3 Unit

The Atmosphere

- 1. Oxygen.
- 2. Carbon dioxide.
- 3. Nitrogen.



4 Unit

Structure and Function

- 1. Human nervous system.
- 2. Human locomotory system.



UNIT

Force and Motion

LESSON OF THE UNIT:

Mass and weight

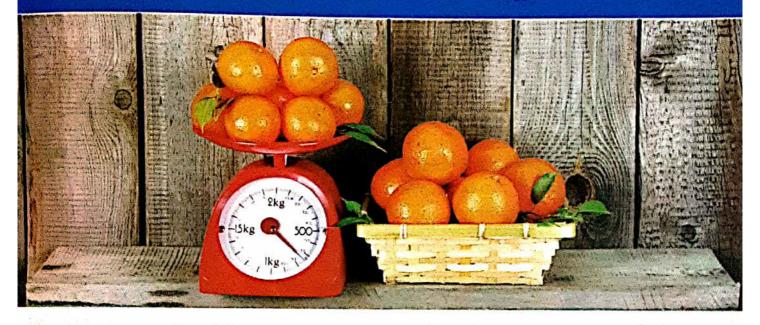


UNIT OBJECTIVES

By the end of this unit, you will be able to :

- · Determine the concept of mass.
- Determine the mass of some objects using the balance scale.
- · Determine the concept of weight.
- Determine the weights of some objects using the spring scale.
- · Determine the factors affecting weight.
- Calculate the weight of objects on the Earth's surface and on the moon's surface.
- · Compare between mass and weight.

Mass and weight



- Mass and weight are two terms you often hear in your daily life.
- The confusion between mass and weight is considered one of the most common mistakes in our daily life.

So, what is the difference between

Mass & Weight?

To know the answer of this question, we must study :

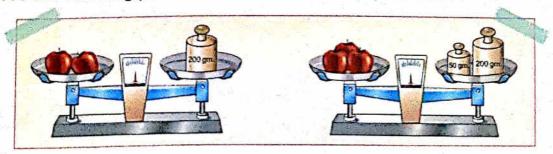
First: Mass

Second: Weight

FIRST

Mass

Observe the following pictures to discover the concept of mass :



As you see, the mass of **two** apples **is not equal to** the mass of **three** apples, because they have different amounts of matter.

mass

concept الكتلة

weight منهرم

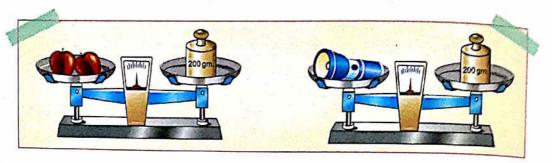
confusion الوزن

الخلط

Weight

المعاصر علوم لغات (شرح) /٦ب/ثيرم ١ (م: ٢)





But, the mass of two apples is equal to the mass of the searchlight, because both of them have two equal amounts of matter.

From the previous examples, we conclude that :

Mass:

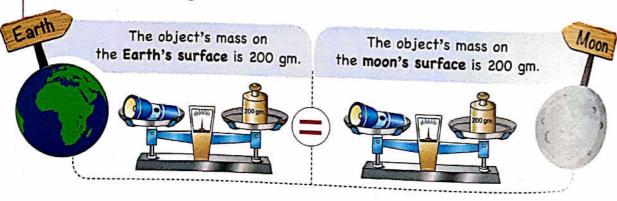
It is the amount of matter in an object.

The properties of mass:

- 1. All matter have mass whatever their states (solids, liquids or gases).
- 2. The mass depends on the amount of matter, so the mass of an object increases when the amount of matter in it increases and vice versa.
- 3. The mass of any object is a fixed (constant) value and it does not change by changing the place of matter as in the following example:

Example:

By measuring the mass of an object on the Earth's surface, then measure the mass of the same object on the moon's surface, we will notice that its mass doesn't change.



amount vice versa

searchlight كبية fixed value

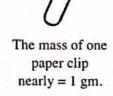
ب نبدة الب

The measuring units of mass:

Mass is measured in gram (gm.) or kilogram (kg.).

Gram (gm.)

- It may be equal to the mass of one paper clip.
- It is suitable for measuring small masses such as jewellery.



Kilogram (kg.)

- It is equal to the mass of one liter of distilled water.
- It is suitable for measuring large masses such as fruits The mass of one and vegetables.



liter of distilled water = 1 kg.

What is meant by ...?

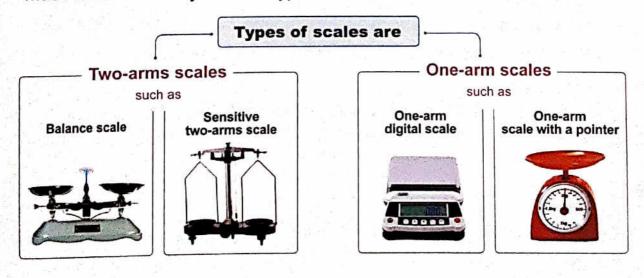
The mass of a glass cup = 100 gm.

This means that the amount of glass in the cup = 100 gm.



The measuring devices of mass:

Mass is measured by different types of scales.



paper clip distilled water devices

sensitive scale دبوس ورق . measuring units digital scale أجهزة

jewellery ميزان حساس pointer وحدات القياس



- The balance scale and one-arm scale with a pointer are used to measure large masses as cheese, vegetables, ...etc.
- The sensitive two-arms scale and one-arm digital scale are used to measure small masses as gold and chemicals.



To know how to measure the mass of a solid object by using a balance scale.



Tools:

A balance scale – standard masses – the object (apples) that we need to measure its mass.



Steps:

 Put the balance scale horizontally on a stable shelf.

To avoid any vibration of the balance scale.

- Make sure that the balance scale is clean in and out.
- Put the object (apples) on one of the two arms and the standard masses on the other arm until the two arms balance.



4. Add up the written numbers on the standard masses together.



Conclusion:

The mass of any solid object is equal to the total mass of the standard masses which balance with the object.



NOTE

On adding a mass of the standard masses, we must be sure that they are similar in the unit.

horizontally vibration اللبًا add up اختزاز chemicals

بعدع الداد الكسائية

Standard masses (مرازين) standard masses

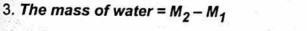
e € Xercise

In an activity to measure the mass of an amount of water using a digital scale, you have to follow the following steps, then complete the spaces below.

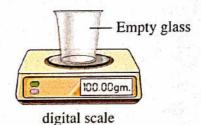
 Bring an empty glass and record its mass (M₁) using the digital scale.

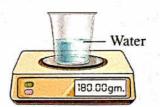
 M_1 (the mass of the empty glass) = gm.

Put the amount of water that its mass is needed to be measured in the glass, then record the total mass (M₂)
 M₂ (the mass of the glass with water) = gm.









Enrichment information

There is a relation between mass and speed (motion).

Where, by increasing the object's mass, it is more difficult to change its speed.

Example:

A train (locomotive) has a bigger mass than the car, so a train needs a stronger force to move or to stop than that needed for the car.

Q	UEST	ion	2

Complete the following senter	ces
-------------------------------	-----

- 1.is the amount of matter in an object.
- 2. 500 grams = kilogram.
- 3. The measuring units of mass are and

¥ Choose the correct answer:

In Alexandria, a sensitive balance scale is used to measure the mass of a solid object of 100 gm. So, the mass of this object in Aswan will be equal to

- a. 90 gm.
- **b.** 100 gm.
- c. 110 gm.
- d. 120 gm.

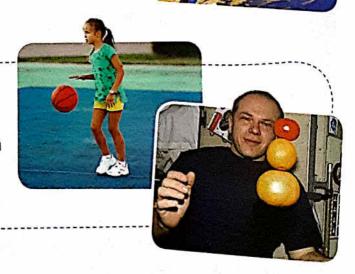
SECOND Weight

Observe the following pictures to discover the concept of weight:

The children fall down when they jump up on the Earth's surface. **But,** the astronaut doesn't fall down when he jumps from a high position in space. Why?



If you let a ball free from your hand, it will fall down to the Earth's surface, while objects in the space don't fall down, but swim in space. Why?



From all the previous pictures, we can conclude that:

- The reason for object's fall downwards the Earth's surface is a type of force called weight (gravitational force).
- You can feel this force when you carry an object or try lifting it.

Weight:

It is the force by which a body is attracted to the Earth.

OR: It is the gravitational force by which a body is attracted to the Earth.

attract	ينجذب	force	ئر ة	gravitational force	قوة الجاذبية الأرضية
astronaut	رائد فضا •	lifting	رفع		, , , ,

NOTES

- 1. The effect of weight is always directed towards the center of the Earth.
- On the Earth, all objects have weight, but in space, all objects are in a state of weightlessness.

The measuring unit of weight:

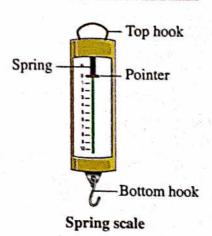
Weight is measured in a unit called Newton.

Newton:

It is the measuring unit of weight which is almost equal to the weight of an object on the Earth's surface whose mass is 100 grams.

The measuring device of weight:

- The weight of any object can be measured by the spring scale.
- The spring scale consists of :
 - Top hook (to hold the scale).
 - 2. Bottom hook (to hang the object up the scale).
 - 3. A spring with a pointer.



What is meant by ... ?

The weight of a body on the Earth's surface = 50 Newton.

⇒ This means that the gravitational force which attracts the body to the Earth = 50 Newton.

QUESTION ?

GOESTION ?	
≥ Write the scientific term :	
The measuring unit of weight.	()
2. A device which is used to measure the weight of an object.	()
☑ Complete the following sentences :	
1. One Newton is equal to the weight of an object on the Earth whose m	nass is grams.
2. Weight always affects towards the of the Earth.	
weightlessness انعدام الرزن spring scale	میزان زنیرکی

hook يغلق



To know how to measure the weight of any object by using the spring scale.



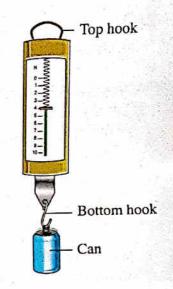


Tools:

A spring scale - an object (a can).

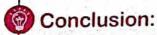


- Hold the spring scale from its top hook, then hang the can in its bottom hook.
- 2. Let the object go down slowly.
- Wait until the object becomes stable to record the reading, which refers to the object's weight.





The can pulls the spring downwards and the reading of the pointer increases.



The weight of any object can be measured by the spring scale by determining the extension of its spring.

The factors affecting weight:

The weight of any object is affected by three factors which are:

1

The object's mass.

2

The planet (place) where the object exists. 3

The distance between the object and the center of the planet.

refer to

determining يشير إلى factors يوجَد

extension تعيين العوامل لتمدُّد

The object's mass:

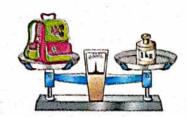


Activity 3 To discover the relation between mass and weight.



🔞 Tools:

A balance scale - a spring scale different objects with different masses (such as your school bag, five oranges, etc.)







Steps:

- 1. Measure the mass of the first object by using the balance scale and its weight by the spring scale.
- 2. Repeat the previous step with the other objects and write the results in the following table.





Observation:

You will observe the following results:

The object's mass (kg.)	1	2	5	6	8
The object's weight (Newton)	10	20	50	60	80



Conclusion:

As the object's mass increases, its weight increases.

NOTES

1. You can calculate the weight of an object on the Earth's surface according to the following role:

Object's weight on the Earth's surface (Newton) = Its mass (kg.) x 10

2. The acceleration of the Earth gravity = 10 m/sec².

acceleration لاعدة

عجلة

المعاصر علوم لغات (شرح) /١ب/تيرم ١ (م: ٣)



The mass of a person is equal to 70 kg., calculate its weight on the Earth's surface.

Solution

The object's weight on the Earth's surface = Its mass $(kg.) \times 10$ = $70 \times 10 = 700$ Newton.

Calculate the weight of an object on the Earth's surface, if you know that its mass is equal to 500 gm.

Solution

The object's mass = 500 gm. \div 1000 = $\frac{1}{2}$ kg. The object's weight on the Earth's surface = Its mass (kg.) \times 10 = $\frac{1}{2}$ \times 10 = 5 Newton.

If the weight of an object on the Earth's surface is equal to 300 Newton.

Calculate the mass of this object.

Solution:

The object's weight on the Earth's surface = Its mass (kg.) \times IO 300 = Its mass (kg.) \times IO

It mass =
$$\frac{300}{10}$$
 = 30 kg.

QUESTION ?

■ Calculate the weight of an object on the Earth's	surface whose mass equals 5 kilograms
■ Calculate the mass of an object whose weight or	n the Earth's surface is equal to 50 Newton
≥ Complete the following sentences :	
1. The object's weight on the Earth =	×
2. Weight is measured in unit, while	mass is measured in

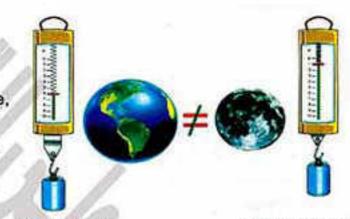
Unit One

The planet where the object exists:

- The weight of an object differs according to the planet (or the moon) where the object exists.
- As the mass of the planet increases, its gravitational force for an object increases, so the weight of the object increases.

Example :

On measuring the weight of an object on the Earth's surface, then measure the weight of the same object on the moon's surface, we notice that its weight changes.



Where,

the weight of the object on the moon's surface equals The object's weight on the Earth's surface equals The object's weight on the moon's surface equals 1 Newton.

one sixths $(\frac{1}{6})$ of its weight on the Earth's surface. $(6, \mathbb{R})$ Because the Earth has greater mass than the moon, so the gravitational force of the Earth is greater than the moon.

6 Newton.



 You can calculate the weight of an object on the moon's surface according to the following role:

Object's weight on the moon's surface (Newton) = -× Its weight on the Earth.

$$Or = \frac{Its \ mass \ (kg.) \times 10}{6}$$



المعاصر علوم لغات (شرح) / ۱ب/ تيرم ۱ (م : ۳)



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If the mass of an object on the Earth's surface equals 60 kg., calculate:

- 1. Its mass on the moon's surface.
- 2. Its weight on the Earth's surface.
- 3. Its weight on the moon's surface.

Solution:

- 1. The object's mass on the moon = 60 kg.
- 2. The object's weight on the Earth = Its mass (kg.) × 10 = 60 × 10 = 600 Newton.
- 3. The object's weight on the moon = Its weight on the Earth $\times \frac{1}{6}$ = 600 $\times \frac{1}{6}$ = 100 Newton.



A body whose weight is 20 Newton on the moon's surface, calculate:

- a. Its weight on the Earth's surface.
- b. Its mass on the Earth's surface.

Solution:

a. The body's weight on the moon = Its weight on the Earth $\times \frac{1}{6}$

$$20 = 1$$
ts weight on the Earth $\times \frac{1}{6}$

The weight on the Earth = $20 \times 6 = 120$ Newton.

b. The body's weight on the Earth = Its mass (kg.) × 10

The mass of the body = $\frac{120}{10}$ = 12 kg.

QUESTION ?

🔌 If the mass of an object on the Earth's surface equals 100 kg., calculate :

1.	Its	weight	on	the	Earth's	surface.
----	-----	--------	----	-----	---------	----------

2. Its weight on the moon's surface.

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3 The distance between the object and the center of the planet:

The weight of any body decreases when the distance between the body and the center of the planet increases as the gravitational force decreases.

Example:

The weight of a person in a flying balloon is smaller than that on the Earth's surface.

Because the gravitational force of the Earth to the person in the balloon decreases as



The differences between mass and weight:

we go away from the center of the Earth.

Points of comparison	Mass	Weight						
Definition:	The amount of matter in an object.	The gravitational force by which the body is attracted to the Earth.						
Measuring unit:	Kilogram or gram.	Newton.						
Measuring device:	Balance scale.Sensitive two-arms scale.One-arm digital scale.One-arm scale with a pointer.	Spring scale.						
The direction of its effect:	It has no direction.	Its effect is always directed towards the center of the Earth (downward). Variable. (It changes with changing the place).						
The effect of changing the place:	Constant. (It does not change with changing the place).							

IIIy to answer

- Worksheet 1
- General exercise of the school book on Unit
- * Model exams on Unit 1 in the Notebook.

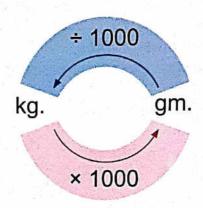
متغیر variable ثابت

Remember The Lesson



• Mass:

- It is the amount of matter in an object.
- It doesn't change with changing the place.
- The measuring units of mass are gram (gm.) or kilogram (kg.).
- 1 kilogram = 1000 grams.



Weight:

- It is the force by which a body is attracted to the Earth.
- It changes with changing the place and changes from a planet to another.
- The measuring unit of weight is Newton.
- The factors affecting weight are :
 - 1. The object's mass.
 - 2. The planet (place) where the object exists.
 - 3. The distance between the object and the center of the planet.
- Object's weight on the Earth (Newton) = Its mass (kg.) × 10
- Object's weight on the moon (Newton) = Its weight on the Earth $\times \frac{1}{6}$

Questions on the lesson





Questions signed by \(\bigcirc\) have been taken from the school book.



. Cl	noose the correc	t answer :		
1.	The amount of	matter that the o	bject contains is kno	own as
	a. mass.		c. Newton.	d. gram.
2.	The measuring	g units of mass in	clude	
	a. gram and ki		b. kilogram and	l kilometer.
	c. kilometer ar	nd gram.	d. meter and ki	lometer.
3.	nearly	equals the mass	of one paper clip.	
		b. Gram		d. Ton
4.	is suita	ble for measuring	large masses as frui	ts and vegetables.
	a. Kilogram	b. Gram	c. Kilometer	d. Meter
5.	equals	the mass of one	liter of distilled wat	er.
	a. Kilometer	b. Kilogram	c. Gram	d. Meter
6.	The mass of h	alf liter of water e	equals gram	IS.
	a. 5	b. 50	c. 500	d. 5000
7.	All the followin mass only exc	g scales are exa ept	mples of scales tha	t are used to measure
	a. balance sca	le.	b. one-arm digi	tal scale.
	c. spring scale		d. sensitive two	-arms scale.
8.	is the g	ravitational force	by which a body is	attracted to the Earth.
	a. Weight	b. Mass	c. Newton	d. Balance scale
9.	is the n	neasuring unit of		
	a. Newton	b. Meter	c. Kilogram	d. Gram
10.	Newton equals	the weight of an	object whose mas	s is gram(s).
	a. 1	b. 10	c. 100	d. 1000
11.	The device	of measuring we	ight is	
	a. one-arm sca	경제 그리고 그렇게 보다 먹는데 바	b. two-arms sca	ale.
	c. digital scale.		d. spring scale.	

The weight of ar	ny body =		
		c. its mass x 10	d. its mass
			its mass
*103	loco wolghi lo =s	2	
608 - 1008	b. 2 kg.	c. 200 kg.	d. 20 kg.
The weight of a	ny object b	y increasing its ma	SS.
		b. increases	
c. still constant	•	d. decreases to ha	alf
The weight of a	n object on the	planet equals	6 times
A280			
a. Mars	b. Earth	c. Jupiter	d. Neptune
The weight of a	ny object w	hen the distance be	etween the body and
the center of th	e Earth increases.		
a. increases	b. decreases	c. still constant	d. is doubled
Your weight on	the Earth's surface	e is 600 Newton, so	your weight on
the moon's sur	face is Nev	wton.	
a. 6	b. 60	c. 100	d. 10
		urface is 6 kg., so it	ts weight on
the moon's surf			
a. 6 kg.			
	35		so its mass on
			
			to the of the
			d absonce
		- 10 4 1.	d. absence
		o a cara	
a. 68 Newton.	b. 69 Newton.	c. 70 Newton.	d. 71 Newton.
The gravitationa	al force for an apple	e its mass is 200 gr	n. =Newton.
a. 2	b. 200	c. 2000	d. 20
	a. its mass An object whe equals	An object whose weight is 20 Nequals	a. its mass b. its mass x 100 c. its mass x 10 An object whose weight is 20 Newton on Earth, so equals

2. Choose from column (B) what suits it in column (A):

(A)	(B)
1. The force with which a body is	a. Newton.
attracted to the Earth.	b. Mass.
2. The measuring unit of mass.	c. Kg.
3. The measuring unit of weight.	d. Weight.
4. The amount of matter in an object.	e. Spring scale.

 4	J	4
 SHOW BY THE BELLEVILLE ON	The same and the same of the s	Tomas I con management

3	• Put (✓) in front of the right statements and (x) in front of the wrong
	statements, then correct the wrong ones:

	AND THE PROPERTY OF THE PROPER		
1.	Weight is the amount of matter in an object.	()
2.	The mass of a piece of stone on the Earth's surface is smaller than its mass on the moon's surface.	()
3.	The weight is a constant amount that does not change by changing the location.	()
4.	Kilogram nearly equals the mass of one paper clip.	()
5.	Gram is used to measure big masses.	()
6.	Gram is suitable for measuring jewellery, while kilogram is suitable		
	for measuring vegetables.	()
7.	Sensitive two-arms scale is used to measure small masses as		
	gold and cheese.	(,
8.	Digital scale is used for measuring weight of an object.	(
9.	The mass of one liter of distilled water equals 100 grams.	(
10.	The mass of a body on the moon surface is one sixth $(\frac{1}{6})$ its mass or	1	
7,12	the Earth's surface.	(
11.	Weight is the gravitational force by which a body is attracted to		
	the Earth.	(
12.	The effect of weight is always directed towards the surface of the Ea	rth.	
14.F	두 가게 되는데 얼마를 다 하는데 하는데 되는데 되었다.	(
13	. Newton is the measuring unit of weight of an object whose mass is		

100 grams.

25 العاصر علوه لغات وشرس / ٢٠ / تيرم ١ (٠: ٤)

	14. When the mass of an object on the Earth equals 2 kg., so its weight equals 200 Newton.	
	15. The weight of any object can be measured by the balance scale. (,
	16. The extension of the wire of the spring scale equals the weight of	,
	the hanged object on it.)
	17. By increasing the mass of the piece of stone, its weight decreases. ()
	18. When the mass of a toy car equals 1 kilogram, so its weight equals 300 Newton.)
	19. As the mass of a planet increases the weight of a body on it decreases. ()
	20. When your weight on the Earth's surface is 600 Newton, so your weight on the moon's surface is 6 Newton. (t)
	21. The Earth gravitational force increases as the body moves away from the Earth.	. '
	• Write the scientific term of each of the following :	,
	1. The amount of matter in an object.)
	The measuring unit of mass which is suitable for measuring the small	,
	masses as jewellery.)
	3. The measurement unit of mass which is almost equal to a mass one	
	liter of distilled water.)
	 A type of scales that is used to measure the large masses as cheese and fruits. 	24.00
	5. The measuring unit of mass which is suitable for measuring the large	
	masses. (.)
	A type of scales that is used to measure the small masses as gold and chemicals. ()
0		1
	9. The measurement unit of weight which is almost equal to a mass 100 grams.)
	10. The measuring device of weight.	
	11. Mass (kg.) × 10 ()
-	12. Weight on the Earth / 10)
1		,

5. Complete the following statements:

- 1.is the amount of matter in an object.
- 2. The mass of an object when the amount of matter increases in it.
- 3. Mass is a constant value and it is not affected by
- 4. The object's mass on the moon's surface its mass on the Earth's surface.
- 5. and are measuring units of mass.
- 6. equals the mass of one liter of distilled water.
- 7. Gram is suitable for measuring small masses as, while is suitable for measuring large masses as
- 8. Mass is measured by different types of scales as and
- 9. and are from the types of the two-arms scales.
- scale is used to measure the large masses as cheese and vegetables, while...... scale is used to measure small masses.
- 11. One-arm scales are divided into and
- 12. Mass is the amount of matter that body contains and it does not change according to
- 13. The effect of weight is always directed towards
- 14. The objects seem weightless in the space due to the absence of
- 15. The measuring unit of mass is or, whereas the measuring unit of weight is
- 16. Weight of the body is measured in unit and scale is used to measure it.
- 17. Mass is measured by, whereas weight is measured by
- 18. An object's weight depends on , and
- 19. By increasing the mass of any object, its weight
- 20. Mass of any object on the Earth = $\frac{10}{10}$
- 21. The gravitational force by which a body is attracted to the Earth is called and it increases as the of the planet increases.
- 22. The weight of an object on the moon's surface equals of its weight on the Earth's surface.

	23.	The weight of a balloon when the distance between the balloon and the center of the Earth decreases.
	24.	An object's weight is affected by the distance being away from theof the planet.
	25.	As the mass of the planet increases, the weight of an object exists on this planet will, because the gravitational force of this planet
	26.	The mass of a body on the Earth is, whereas its weight on the Earth is
	27.	The balance scale is used to measure, while the spring scale is used to measure
6.	Giv	ve reasons for the following :
	1.	The mass of a body on the Earth's surface equals the mass of the same body on the moon's surface.
1	2.	Object's falling downward the Earth's surface.
3	3.	The balance scale should be placed horizontally on a stable shelf.
	١.	The force of the moon's gravity is less than the Earth's gravity.
5		The weight of a person on the Earth's surface is larger than that on the moon's surface.
6		The weight of a person in a flying balloon is smaller than that on the Earth's surface.

8.	The wire of spring scale expands when a body is hanged to it.	
9.	The weight of an object is affected by its mass.	
		••••
W	hat is meant by?	
1.		
١.	IVIASS.	
2.	Gram.	*****
۷.	Gram.	
3.	Kilogram	*****
٥.	Kilogram.	
4.	Weight.	
T.	vvoigin.	*****
5.	Newton.	
6,	The mass of one small watermelon is 500 grams.	
7.	The weight of a body on the Earth's surface equals 1 Newton.	
		tetee
WH	nat happens when?	

•	You hang a body in the bottom hook of the spring scale.	
2.	The mass of an object increases.	

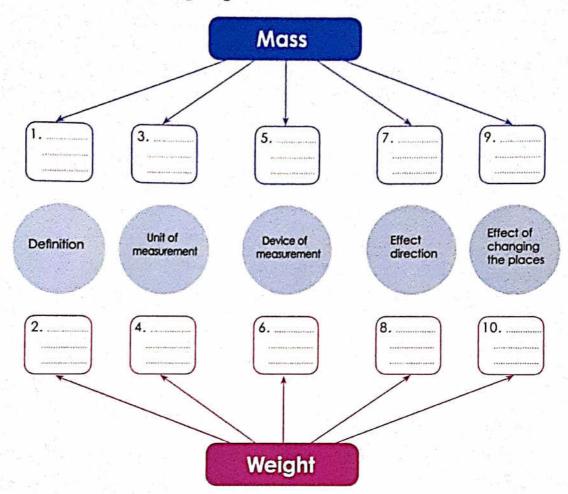
	The mass of the planet where the object exists increases.
5.	There is no gravity on the Earth's surface.
6.	You measure the weight of a toy car on the Earth's surface, then measure its weight on the moon's surface.
7.	The distance between a person in a balloon and the center of the Earth increases.
8.	Transfering a body of 60 Newton weight from the Earth's surface to the moon's surface.
101	
. WI 1.	nat is the importance of each of the following?
	nat is the importance of each of the following ?
1. 2.	nat is the importance of each of the following? The Earth's gravity.
1. 2.	nat is the importance of each of the following? The Earth's gravity. Balance scale.
1. 2. 3.	The Earth's gravity. Balance scale. Sensitive two-arms scale.
1. 2. 3. 4. 5.	The Earth's gravity. Balance scale. Sensitive two-arms scale. One-arm scale with a pointer.

	ention the factors affecting weight.

) r	oblems :
١.	An object's mass = 30 kg. on the Earth's surface, calculate its weig the Earth's surface.
2.	An object whose mass on the Earth equals 6 kg., calculate its we
	on both surfaces of the Earth and the moon.
3.	The opposite pictures illustrate
	the steps of calculating the mass of
	a liquid using the digital scale. Look at
	the pictures, then calculate the mass and the weight of this liquid.
	Calculate the weight of an object on the moon's surface, where its von the Earth's surface is 6 Newton.
	on the Latting Sunder is a Newton.
	☐ If the object's mass = 30 kg. on the Earth. Calculate:
•	a. Its mass on the moon.
	b. Its weight on the Earth.
	c. Its weight on the moon.

a. Its weight on the Earth's b. Its mass on the Earth's		the moon'		
	tha E	adh'e surf	ace. Calcı	ulate :
'. If an object's mass = 200 gm. a. Its mass on the moon.	on the E	artir 5 Sur	400, 00	
b. Its weight on the Earth.				
3. If the weight of your body on th	e Earth's		s 600 Nev	/ton.
B. If the weight of your body on the Calculate: a. Your mass on the Earth's sub. Your mass on the moon's suc. Your weight on the moon's second secon	e Earth's irface. irface. surface.	s surface i		
B. If the weight of your body on the Calculate: a. Your mass on the Earth's sub. Your mass on the moon's suc. Your weight on the moon's second secon	e Earth's irface. irface. surface.	s surface i		ass and
B. If the weight of your body on the Calculate: a. Your mass on the Earth's sub. Your mass on the moon's suc. Your weight on the moon's such the following table shows the relationship.	e Earth's irface. irface. surface.	s surface i		

14. Complete the following diagram.





Thinking Skills Questions

Classify the following items into two groups in two different ways:
 (Gram – Balance scale – Spring scale – Kilogram – Sensitive scale – Newton)

First way

Group ①	Group ②

Second way

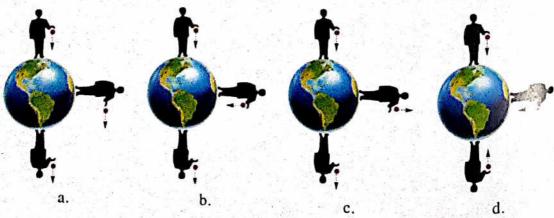
Group ①	Group ②

The opposite imaginary figure shows a person carrying a ball is standing in three different places on the Earth.

If this person drops the ball, the gravity makes it fall down.



Which of the following figures shows the right directions of the ball falling in the three different places:



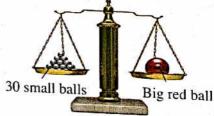
3. Choose the correct answer:

1. Ahmed weighs 850 Newton on the Earth's surface, while his weight on the planet Venus is 765 Newton.

So, the mass of the planet Venus is the mass of the planet Earth.

- a. more than
- b. less than
- c. equal to
- d. double
- 2. Ramy weighs 750 Newton on the Earth. On the planet Mars, the force of gravity is 38% of that on the Earth. How much would Ramy weigh on Mars? Newton.
 - a. 285

- b. 750
- c. 1250
- d. 900
- 4. You have 30 similar small balls, made up of the same matter and also equal in volumes. As in the opposite figure, the 30 small balls get balanced with a big red ball.



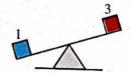
If you know that the weight of the big red ball equals 150 Newton.

Calculate the weight and the mass of one small ball.

- 5. Ahmed has a balance and four cubes (1, 2, 3, 4). The cubes are made of different materials.

He puts two cubes at a time on the balance and observes the following results.







What can he conclude about the weight of cube number (2)?

- a. It is heavier than cubes 1,3 and 4.
- b. It is heavier than cube 1 but lighter than cubes 3 and 4.
- c. It is heavier than cube 3 but lighter than cubes 1 and 4.
- d. It is heavier than cube 4 but lighter than cubes 1 and 3.



Project On UNIT ONE



Put (\checkmark) in front of right statements, and explain why? Put (\times) in front of wrong statements, and correct them.

1.	The mass of the planet Earth equals the mass of the moon.	(
2.	The object of 10 Newton weight on the moon, has a mass of 600 grams on the planet Mercury.	()
3.	The gravity of the moon equals six times the gravity of the planet Earth.	Î)
4.	1.75 Newton equals the weight of an object whose mass is 175 grams on the planet Earth.	()
5.	You can walk steady on the moon, while you cannot do so on the Earth.		
6.	It is possible for the planet Earth to rotate around the moon.	 ()
	Newton is the measuring unit of weight and it equals the attraction force of an object whose mass is 0.1 Kg.	()
8.	You can float in the space, when there is no weight.	()

UNIT 2

Thermal Energy

LESSONS OF THE UNIT:

- 1. Heat conduction.
- 2. Measuring temperature.



UNIT OBJECTIVES

By the end of this unit, you will be able to :

- · Identify the concept of heat energy.
- Identify the concept of temperature.
- Determine some materials that are good conductors of heat or bad conductors of heat.
- · Show practically the various metals that conduct heat.
- Determine the usages of the good and the bad conductors of heat.
- Compare between the medical thermometer and Celsius thermometer in usages and structure.
- Appreciate the importance of thermometers in our daily life.

Heat conduction



Heat is one of the most important types of energies that has many uses in our daily life.

Uses of Heat

We use heat in houses in many purposes such as:



Warming



Cooking



Heating water



Drying washed clothes

Also, heat is used in many industries such as:



Processing food industry



Glass industry



Paper industry



Textile industry

paper industry

المصنوعات الورقية

textile

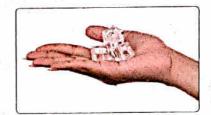
لنسبح

Heat:

It is a form of energy that transfers from the higher temperature object to the lower temperature object.

- We can observe the transfer of heat in many situations in our daily life as the following examples:
 - When you hold a piece of ice in your hand, you feel cold.

Because the heat transfers from the higher temperature object (your hand) to the lower temperature object (the piece of ice).



 When you hold a hot cup of tea in your hand, you feel hot.

Because the heat transfers from the higher temperature object (the cup of tea) to the lower temperature object (your hand).



But, what is meant by temperature?

Temperature:

It is the degree of hotness or coldness of a body.

- The measuring devices of temperature are called thermometers.

Materials and their heat conduction :



To show the ability of materials in conducting heat.



Tools:

A glass container – a metallic spoon – a plastic ruler – a wooden pencil – three buttons – molten wax – clay – boiled water.

degree

ability الدرجة

molten wax قابلية

شعع منصهر

button

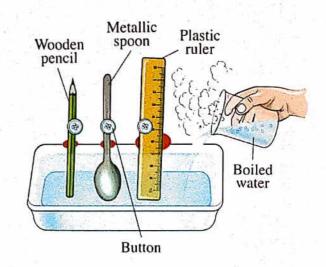
boiled water زر

clay ماءمغلی



Steps:

- Stick a button on the ruler, the spoon and the pencil using molten wax, then fix them at the edge of the container using clay.
- Pour boiled water in the container to be half filled.



Aluminium Plastic

Wood

Water

Burner



Observation:

The button falls from the metallic spoon only.





Tools:

A beaker contains water – burner – 4 similar size rods of different materials (wood – plastic – iron – aluminium).



Steps:

- 1. Put the beaker containing water on the burner.
- 2. Put the 4 rods inside the hot water.
- 3. Touch the end of each rod with your finger.



Observations:

- 1. You feel hot when touching aluminium and iron rods.
- 2. You don't feel hot when touching wood and plastic rods.



General conclusions:

From the two previous activities, we can conclude that :

Materials are classified, according to their heat conductivity, into two types :

- · Heat conductors (good conductors of heat).
- · Heat insulators (bad conductors of heat).

burner

heat conductors مرتد

heat insulators مواد موصلة للحرارة

مواد عازلة للحرارة

Heat conductors:

They are the materials that let heat flow through.

Examples of heat conductors:

Copper, aluminium, iron, mercury and stainless steel.

Heat insulators:

They are the materials that do not let heat flow through.

Examples of heat insulators:

Wood, glass, plastic, paper, wool, rubber and air.

Life applications on heat insulators and heat conductors:

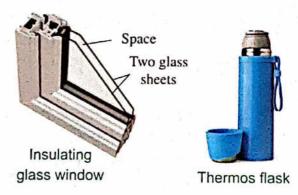
Heat insulators :

Air is a bad conductor of heat that is used in making the insulating glass windows and thermos flask.

Where,

It is made up by bonding two glass sheets and leaving a space filled with air between them.

To prevent the leakage of heat.



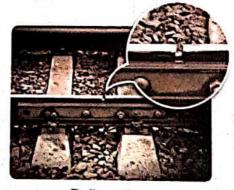
Heat conductors :

Leaving spaces between railway bars which are made of iron.

Where,

Iron is a good conductor of heat, so the railway bars have spaces between them.

To expand in hot weather without being twisted to avoid trains accidents.



Railway bars

life application	تطبيقات حياتية ons	railwa	y bars	الحديد	قضبان السكة	bonding	لطن
leakage	فتنرب المسترب	twist			تلتوى	accidents	حوادث
mercury	الزنبق	flow			بر .		

41 المعاصر علوم لغات (شرح) /١٠/تيرم ١ (م : ٦)

QUESTION	2
	4

Write the scientific term:

- 1. Materials that don't let heat flow through. (.....)
- A form of energy that transfers from a higher temperature object to a lower temperature object.

 (.....)
- 3. The degree of hotness or coldness of a body. (.....)

Metals differ in conducting heat:



Activity 2 To show that metals are different in conducting heat.



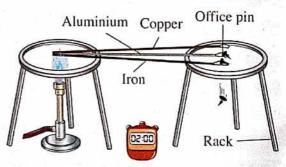


Tools:

Two metallic racks – three similar size metallic rods (copper, aluminium and iron) – molten wax – office pins – flame – stopwatch.

Steps:

- Stick an office pin on one tip of each metallic rod by using wax.
- Put the three metallic rods on the two racks as shown in the figure, where the end that doesn't contain the office pin is exposed to the flame.



Record the time taken by each office pin to fall down by using the stopwatch.

Observation:

The pin fixed on the copper rod falls first, then the pin fixed on the aluminium rod and finally the pin fixed on the iron rod.

Conclusion:

Different metals differ in conducting heat where,

- Copper conducts heat faster than aluminium.
- · Aluminium conducts heat faster than iron.

metallic rack حامل معدنى office pins دبابيس مكتب tip



- 1. All metals are good conductors of heat.
- 2. Metals are different in conducting heat, which means that some metals conduct heat faster than others, such as :

Copper

Conducts heat
Faster than

Aluminium

Conducts heat

Iron

Usages of heat conductors and heat insulators:

Material & its type	Usages
Aluminuim and stainless steel (Heat conductors)	They are used in making: a. Cooking pots (Cooking utensils). b. Kettles that are used in houses and factories.
Plastic and wood (Heat insulators)	They are used in making the handles of : a. Cooking pots. b. Electric iron. c. Kettles.
Wool (Heat insulator)	It is used in making heavy blankets and woolen clothes, so they are used in winter to prevent the leakage of heat and so keep the body warm.

cooking pots (utensils) electric iron

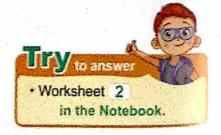
أوانى للطهى kettles مكواة كهربية heavy blankets غلابات handles woolen clothes بطاطين ثقبلة أيدى / مقابض الملابس الصوفية



- Woolen clothes are used in winter.
 To keep our bodies warm as they prevent the leakage of heat.
- Cooking pots are made of aluminium, while their handles are made of plastic.
 Because aluminium is a heat conductor, while plastic is a heat insulator.

Comparison between heat conductors and heat insulators:

Points of comparison	Heat conductors	Heat insulators
Definition :	They are the materials that let heat flow through.	They are the materials that don't let heat flow through.
Examples :	Copper, aluminium, iron, mercury and stainless steel.	Glass, wood , paper , plastic , wool , air and rubber.
Usages :	They are used in making : 1. Cooking pots (utensils).	They are used in making: 1. The handles of: cooking utensils, kettles and electric iron.
	2. Kettles (boilers).	Heavy blankets and woolen clothes.



Remember Lesson One





O Heat:

It is the form of energy that transfers from the higher temperature object to the lower temperature object.

> Higher temperature object.

Heat

Lower temperature object.

Temperature :

It is the degree of hotness or coldness of a body.

Thermometers are devices used to measure temperature.

• Heat conductors :

They are the materials that let heat flow through.

- · Examples : Copper, aluminium, iron and stainless steel.
- Their uses: Aluminium and stainless steel are used in making cooking pots and kettles.
- All metals are good conductors of heat.

• Heat insulators:

They are the materials that don't let heat flow through.

- · Examples: Glass, wood, paper, plastic, wool, air and rubber.
- · Their uses:
- Wood and plastic are used in making handles of : cooking pots, electric iron and kettles.
- Wool is used in making woolen clothes and heavy blankets.

• Metals are different in conducting heat, where :

- Copper conducts heat faster than aluminium.
- Aluminium conducts heat faster than iron.

Questions



on Lesson One



Questions signed by A have been taken from the school book.

	- 발매하는 나는 마이지를 하는 것도 있는	
. Ch	oose the correct answer:	
1.	Heat transfers from	
2.	When you touch a piece of ice, had a from hand to ice. c. from hand to air to ice.	b. from ice to hand. d. from air to ice.
3.	The degree of hotness or coldness a. temperature. c. a good conductor of heat.	b. heat. d. an insulator.
4.	A thermometer is a device used a. mass c. weight	I to measure the of an object. b. temperature d. length
5.	is a good conductor of he a. Plastic c. Copper	eat. b. Glass d. Wood
6.	All the following are good conducts a. aluminium and iron. c. glass and wood.	b. copper and iron. d. aluminium and copper.
7.	is a bad conductor of hea a. Copper c. Aluminium	t. b. Glass d. Iron
8.	Wood is a heat insulator, because a. allows heat to flow through.	b. doesn't let heat flow through.

d. is a good conductor of heat.

c. conducts heat.

9. Copper	
a. doesn't allow heat to flow thro	ough.
b. allows heat to flow through.	
c. is a heat insulator.	
d. is a bad conductor of heat.	
10. From the applications of heat co	onductors is
a. making the insulating glass w	rindows.
b. leaving spaces between the r	ailway bars.
c. making the handles of iron and	d kettles from plastic.
d. making heavy woolen blanke	ts.
11. Air is used in making the insulati	ng glass windows as it
a. conducts heat.	b. is a good conductor of heat.
c. prevents the leakage of heat.	d. lets heat flow through.
12. As a result of heat flow through	metals, they
a. expand.	b. contract.
c. get smaller.	d. are not affected.
13. Which of the following is the fas	
a. Copper.	b. Iron.
c. Aluminium.	d. Glass.
14. All the following are uses of bad	conductors of heat except
the manufacturing of	all and the second of the second
a. cooking pots.	b. handles of kettles.
c. woolen clothes.	d. handles of cooking pots.
15. Heat conductors are used in ma	king
a. cooking pots and kettles.	
b. kettles and woolen clothes.	
c. kettles and handles of cooking	g pots.
d. cooking pots and handles of l	cetties.
16. Cooking utensils are provided w	
a. copper.	b. plastic.
c. iron.	d. aluminium.
17. Woolen clothes and heavy blank	
a. body warm.	b. weather warm.
c, body cold.	d. weather cold.

2		(\checkmark) in front of the right statements and (x) in front of the wro	ong		
-	sta	tements, then correct the wrong ones :			
-	1.	Heat is the form of energy that transfers from the lower temp	eratur	Э	
1		object to the higher one.		()
	2.	Heat transfers from cold object to hot object.		()
	3.	All materials are good conductors of heat.		()
	4.	The measuring devices of temperature are scales.		()
į	5.	Heat is the degree of hotness or coldness of a body.		()
	6.	Copper, iron and air allow heat to transfer through.		()
	7.	Plastic is a good heat conductor.		()
	8.	Plastic, paper and air are bad conductors of heat.		()
	9.	Copper is a good conductor of heat.		()
-	10.	. 🚨 Aluminium is a bad conductor of heat.		()
	11.	Air is used in the manufacturing of insulating glass windows as it is an insulator.		•	•
	12			()
		. Materials that conduct heat are called heat insulators. The different metals transfer heat at the same rate.		()
				()
		Aluminium conducts heat faster than copper.		()
		Iron conducts heat faster than aluminium.		()
		Cooking pots are made of plastic.		()
		Handles of cooking pots are made of copper.		()
-		Wood is a good conductor of heat.		()
	19.	Heavy blankets and woolen clothes are used in winter to keep the weather cold.		1	١
3	. Wr	ite the scientific term of each of the follwing :		,	!
1	1.	A form of energy that transfers from the rollwing:			
1		A form of energy that transfers from the higher temperature obj the lower temperature object.	ect to		
- [(.,	.)
	emile ()	A form of energy that is used in heating water and warming the	house		
	3.	The degree of hotness or coldness of a body.	(
-		of columess of a body.	()
	10				

Section (1) contract	4.	An indicator helps us to express the state of the body from the point of hotness or coldness.	-)
and the same	5.	A device used to measure temperature.	
-	6.	Materials that let heat flow through.	-
A CONTRACTOR	7.	Materials that do not let heat flow through.	
4	8.	The fastest metal in conducting heat.	•
-	9.	The materials that are used in making cooking pots and kettles. (-
-		A type of clothes used in winter to keep the body warm.	(72)
1		Materials that are used in manufacturing the handles of cooking utensils	,
		electric iron and kettles.	
		(,
4	. C	omplete the following statements :	
The state of the s	1.	Heat transfers from the temperature object to the temperature object.	
-	2.	Heat is a form of	
- Land	3.	, and are from the importance of heat in our daily life.	
-	4.	Heat is used in some industries such as and	
	5.	The temperature is considered as an indicator that helps us to express and of the body.	
and the second	6.	the state of the s	
-	7.	We measure temperature by using	
	8.	Materials are divided into heat conductors and heat conductor	s.
	9.	Some examples of good conductors of heat are and	
-		Some examples of bad conductors of heat are and	
-		All metals are conductors of heat.	
A STATE OF	12.	are the materials that allow heat flow through.	
		are the materials that don't allow heat to flow through.	
		is a good heat conductor, while air is	
1	15.	Air is used in making as it is a heat insulator.	**
	16.	conducts heat faster than aluminium.	
	17.	Plastic is a conductor of heat, while copper is a conductor heat.	of
	18.	and are used in making the handles of cooking pots and kettles.	
	19.	Some usages of good conductors of heat are and	

	Some usages of bad conductors of heat are and	
21.	Wool is a conductor of heat and used in making that keep the body warm.	
	Cooking pots are made of, while handles of cooking pots a made of	re
. G	ive reasons for the following:	
1.	Heat is an important form of energy in our daily life.	
2.	Heat has countless usages in industry.	******
3.	Copper, iron and aluminium are good conductors of heat.	
4.	Wood, glass, plastic and paper are bad conductors of heat (insula	tors
_	Weed in a book included a bit	100000
5.	Wood is a heat insulator, while copper is a heat conductor.	
6.	In the insulating glass window, there is a space filled with air between two glass sheets.	en
6.	In the insulating glass window, there is a space filled with air between	en
6.	In the insulating glass window, there is a space filled with air betwee two glass sheets.	en
6. 7.	In the insulating glass window, there is a space filled with air between two glass sheets. Leaving spaces between the railway bars.	
6. 7. 8.	In the insulating glass window, there is a space filled with air between two glass sheets. Leaving spaces between the railway bars. Plastic differs from copper in conducting heat.	
6. 7. 8. 9. 10.	In the insulating glass window, there is a space filled with air between two glass sheets. Leaving spaces between the railway bars. Plastic differs from copper in conducting heat. Copper differs from iron and aluminium in conducting heat.	

13.	 We use heat insulators as wool in making heavy blankets and woolen clothes. It is necessary to wear heavy woolen clothes in winter.
14.	Cooking pots are made of aluminium, while their handles are made of plastic or wood.
6. wł	at happens when?
1.	You hold a piece of ice in your hand.
2.	You touch a hot cup of tea.
3.	You touch one end of a copper rod, where the other end is exposed to the flame of a candle.
4.	You touch the end of a glass rod, where the other end is exposed to the flame of a candle.
5.	Two bodies have the same temperature touch each other.
6.	There are no spaces between the railway bars.
7.	The handles of kettles and cooking utensils are made of stainless steel.
8.	All substances that the man uses are good conductors of heat.
7. w 1.	hat is meant by ? Heat.
2.	Temperature.

Heat insulators.		•••••
· · · · · · · · · · · · · · · · · · ·		•••••
What is the importance (usage) of	?	
1. Heat.		
2. Good conductors of heat.		
3. Bad conductors of heat.		
4. Aluminium and stainless steel.		
Wood and plastic.		
7. Plastic in the manufacture of th		
7. Plastic in the manufacture of th	e handles of cooking utensils.	
7. Plastic in the manufacture of th Classify the following materials in		
7. Plastic in the manufacture of th Classify the following materials in and heat insulators:	e handles of cooking utensils. the following table into heat cond	uct
7. Plastic in the manufacture of th Classify the following materials in and heat insulators: (Copper – Plastic – Glass – Stair	e handles of cooking utensils.	uct
7. Plastic in the manufacture of th Classify the following materials in and heat insulators:	e handles of cooking utensils. the following table into heat cond	uct
7. Plastic in the manufacture of th Classify the following materials in and heat insulators: (Copper – Plastic – Glass – Stair	e handles of cooking utensils. the following table into heat cond	uct
7. Plastic in the manufacture of the Classify the following materials in and heat insulators: (Copper – Plastic – Glass – Stair Aluminium – Air – Wood)	e handles of cooking utensils. the following table into heat cond nless steel – Paper – Wool – Iron –	uct
7. Plastic in the manufacture of the Classify the following materials in and heat insulators: (Copper – Plastic – Glass – Stair Aluminium – Air – Wood)	e handles of cooking utensils. the following table into heat cond nless steel – Paper – Wool – Iron –	uct
7. Plastic in the manufacture of the Classify the following materials in and heat insulators: (Copper – Plastic – Glass – Stair Aluminium – Air – Wood)	e handles of cooking utensils. the following table into heat cond nless steel – Paper – Wool – Iron –	uct
7. Plastic in the manufacture of the Classify the following materials in and heat insulators: (Copper – Plastic – Glass – Stair Aluminium – Air – Wood) Heat conductors	the following table into heat conduction heat conduction heat conduction heat steel – Paper – Wool – Iron –	uct
7. Plastic in the manufacture of the Classify the following materials in and heat insulators: (Copper – Plastic – Glass – Stair Aluminium – Air – Wood)	the following table into heat conduction heat conduction heat conduction heat steel – Paper – Wool – Iron –	uct

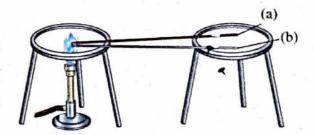
Point of comparison	Heat	Temperature
Definition :		

2.

Good conductors of heat and bad conductors of heat:

Points of comparison	Good conductors of heat	Bad conductors of hea	
1. Definition :			
2. Examples :			
3. Usages :			

11. In the opposite figure there is an iron nail fixed with wax on each of the two rods. One of the two rods is a copper rod and the other is an aluminium rod.



1.	Which rod in the opposite figure
	is copper ? Why ?

2. What do you conclude from this activity?



Thinking Skills Questions

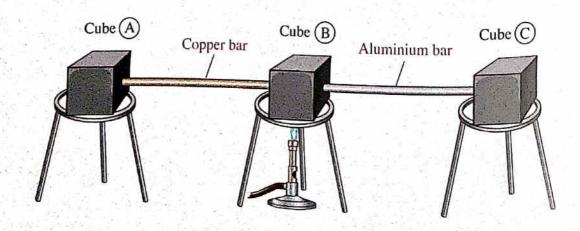
1. A hot boiled egg is put into a cup of cold water.

What happens to the temperature of the water and the egg?

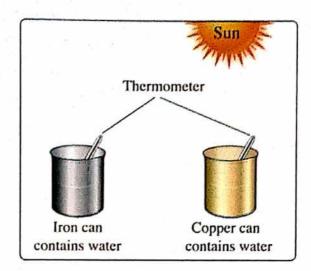
- a. The temperature of water gets colder and the temperature of egg gets warmer.
- b. The temperature of water gets warmer and the temperature of egg gets colder.
- c. The temperature of water stays the same and the egg gets colder.
- d. The temperature of egg stays the same and the water gets warmer.
- 2. You have three similar iron cubes as shown in the figure, then you heat up cube (B).
 - 1. What do you expect?

I expect that heat transfers from	cube (B) to cu	ıbe	faster than from
cube (B) to cube			

2. Give a reason for your answer.



The figure below represents two cans contain the same amounts of tap water.



After four hours in the sun rays, the temperatures of the water in the cans will most likely be

- a. the same as when the cans were placed there.
- b. higher, with the same temperature in both cans.
- c. higher in the copper can than in the iron can.
- d. higher in the iron can than in the copper can.
- 4. Look at the figures below, then answer the questions:
 - 1. In which figure the hand will feel heat?
 - 2. Give a reason for your answer.

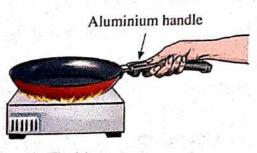


Fig.(a)





Measuring temperature

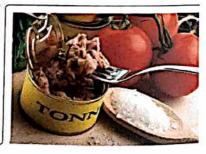


You have learned, in the previous lesson, that temperature is the degree of hotness or coldness of an object. So, what is the importance of measuring temperature?

The importance of measuring temperature:







- 1. Helping us to know our bodies' temperature.
- 2. Helping us to know the weather temperature which affects our life activities.
- 3. Some food processing industries require a certain temperature.

But, we can't depend on the sense of touch to detect the temperature of objects. So, we need a certain device called "thermometer" to measure the temperature of objects accurately.

Thermometer:

It is a device that is used to measure the temperature.

measuring بدتة require بحتاج weather temperature درجة حرارة الجو activities تبهيز الغذاء food processing نشاطات sense of touch حاسة اللمس

How does thermometer work?

To answer this question, you should apply the following activity.



To show how a thermometer works.





Tools:

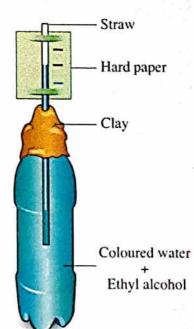
- Plastic bottle.
- Water.
- Ethyl alcohol.
 Blue colour.

- Straw.
- Clay.
- Hard paper.
- Beaker with cold water.

- Beaker with hot water.
- Colouring crayons (black, red and blue).

Steps:

- 1. Fill the bottle with similar two quantities of water and ethyl alcohol.
- 2. Add some drops of the blue colour and stir.
- 3. Put the straw in the bottle. where it does not touch the bottom of the bottle.
- 4. Use the clay to fix the straw and close the mouth of the bottle.
- 5. Cut two cracks in the hard paper, then fix the straw through the two cracks.
- 6. Mark the liquid level using the black colouring crayon.
- 7. Put the bottle inside a beaker with hot water, then mark the liquid level using the red colouring crayon.



Observation:

The level of the liquid in the straw rises up.

8. Put the bottle inside a beaker with cold water, then mark the liquid level using the blue colouring crayon.

Observation:

The level of the liquid in the straw falls down.

ethyl alcohol	كعول إبشبلي	straw	ماصة	hard paper	وړق مقوی
crack	<u>شق</u>	colouring crayons	أقلام تلوين	rises	يرتفع

المعاصر علوم لغات (شرح) / ١٠ / نيرم ١ (م : ٨)



Conclusion:

The main idea of making thermometers is changing the volume of a liquid by changing the temperature.

Where, liquids expand by heating and contract by cooling.

Types of thermometers:

There are many types of thermometers, but in this lesson, we will study two types only which are:

1. Medical thermometer.

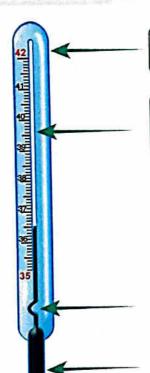
2. Celsius thermometer.

Medical thermometer (or clinical thermometer)

The medical thermometer:

It is the thermometer that is used to measure the temperature of human body.

Its structure: It consists of:



1. Thick glass tube

It is a thick tube made of transparent glass.

2. Capillary tube -

It is a very thin tube that is closed from one of its ends.

3. Constriction

There is a constriction in the capillary tube, above the mercury bulb.

· Its function:

It prevents mercury from returning back to the bulb quickly in order to read the measurement easily.

4. Mercury bulb

It is a bulb filled with mercury and connected to the other end of the capillary tube.

contract capillary tube medical

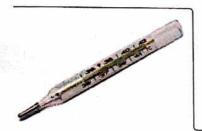
constriction تنكم expand أنبوية

mercury bulb اختناق transparent تتمدد

Its scale :

- The scale of the medical thermometer starts from 35°C to 42°C.
- Each degree is divided into 10 parts, so each part equals $\frac{1}{10}$ degree.

How to use the medical thermometer to measure your body temperature :







Ethyl alcohol



Tissue paper

Steps:

- Sterilize the medical thermometer using ethyl alcohol.
- 2. Dry the thermometer very well using a tissue paper.
- 3. Shake the thermometer well until the mercury returns back to the bulb.
- **4.** Put the thermometer under your tongue for a minute.
- Get the thermometer out from your mouth, then record the temperature reading.
- Sterilize the thermometer using ethyl alcohol and put it in its box.





NOTES

- The normal temperature of a healthy person is 37°C and it may go up during sickness.
- 2. Don't seize the thermometer firmly with your teeth in order not to be broken.

Because mercury is a toxic substance.

sterilize scale firmly tissue paper يعقم تدريا toxic shake مندیل ورق seize سام

ج ضغط



• We must shake the medical thermometer well before use.

To force the mercury back to the mercury bulb.

• The medical thermometer must be kept out the reach of children.

Because mercury inside the thermometer is a toxic substance.

$\blacksquare \mathbb{T}$ echnological application :

Digital thermometers:

They are modern devices which display the body temperature digitaly and used especially for children.

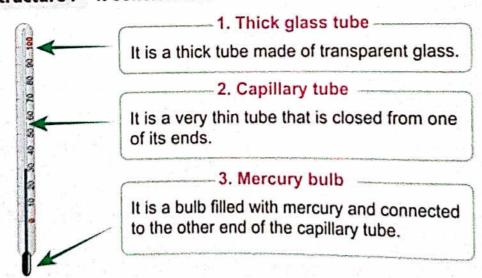


2 Celsius thermometer

The Celsius thermometer:

It is the thermometer that is used to measure the temperature of liquids.

Its structure: It consists of:



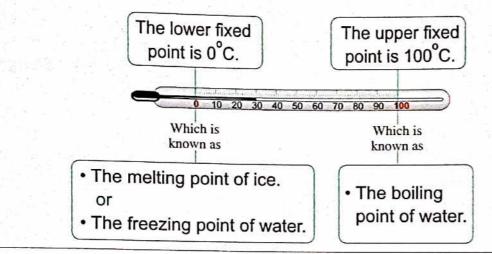
Its scale :

- The scale of the Celsius thermometer starts from 0°C to 100°C.
- The scale is divided into 100 parts, where each part equals one degree.

reach متناول display مُتناول tisplay

NOTES

- 1. In Celsius thermometer, there is no constriction above the mercury bulb.
- 2. In Celsius thermometer:



Scientists helped humanity:

- The Swedish scientist "Anders Celsius" created the Celsius scale in 1742.
- He considered the 0° as the melting point of ice and 100° as the boiling point of water.
- He divided the distance between 0°C and 100°C into 100 parts, where each part equals one degree.



Anders Celsius



Medical thermometer can't be used to measure the temperature of boiling water.

Because the scale of medical thermometer ranges from 35° C to 42° C, while the temperature of boiling water is 100 °C, so the medical thermometer will break.

humanity البشرية create boiling point درجة الغليان Swedish

melting point بصم freezing point السويدي درجة الانصهار درجة التجمد



To show that Celsius thermometer is used in measuring the temperature of liquids.



Tools:

- · Celsius thermometer.
- · Glass of cold drink.

- · Glass of hot tea.
- · Glass of warm water.

Steps:	figures:	Observations:
Put the Celsius thermometer in a glass of hot tea, then wait until mercury rises and stops, then record the temperature.	Hot tea	The mercury level stops at 80°C.
2. Put the Celsius thermometer in a glass of cold drink, then record the temperature.	Cold drink	The mercury level stops at 5°C.
3. Put the Celsius thermometer in a glass of warm water, then record the temperature.	Warm water	The mercury level stops at 40°C.

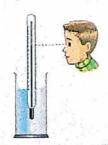


Conclusion:

Celsius thermometer is used in measuring the temperature of liquids.



While recording the temperature, the Celsius thermometer must be vertical and the direction of sight must be perpendicular to the thermometer.



Mercury is used (preferred) in making thermometers : It is a liquid metal that can be seen It is a good easily through the conductor of heat. thermometer glass. **Because** It is a regular expanding material It does not stick which gives an to the walls of the accurate estimation. capillary tube. It remains in a liquid state between (- 39°C) and (357°C) and this gives a wide range of temperature measurement.



- Mercury gives a wide range to measure the temperature. Because it remains in a liquid state between (-39°C) and (357°C).
- Mercury gives an accurate estimation.
 Because it is a regular expanding material.

QUESTION ?

1. The scale of the medical therr	nometer starts from to
2002년 대한국 하는 점점 그는 그는 그는 그를 하는 것이 되었다.	ed to measure the temperature of liquids.
	°C, while the boiling point of water is °C.

estimation دنيق

Enrichment information

Some thermometers contain two scales, one represents the Celsius scale (°C) and the other represents the Fahrenheit scale (°F).

Where.

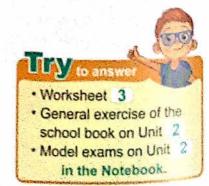
0°C = 32°F

100°C = 212°F



Comparison between Celsius thermometer and medical thermometer:

Points of comparison	Celsius thermometer	Medical thermometer
1. Structure :	a. Transparent thick glass b. Very thin capillary tube. c. Mercury bulb that is fille	
2. Constriction :	Absent,	Present,
3. Range of scale :	From 0°C to 100°C.	From 35°C to 42°C.
4. The used liquid :	Mercury.	Mercury.
5. Usage :	It is used to measure the temperature of liquids.	It is used to measure the temperature of human body



Fahrenheit

لفهرتهاب

Remember Lesson Two



O Thermometer:

- It is a device that is used to measure the temperature.
- The main idea of making thermometers is changing the volume of liquid by changing the temperature, where liquids expand by heating and contract by cooling.
- Mercury is the liquid that is used in the manufacture of thermometers.

• Types of thermometers :

- Medical thermometer.
- Celsius thermometer.

• Medical thermometer :

- It is used to measure the temperature of the human body.
- It has a constriction to prevent mercury from returning back to the bulb quickly.
- Its scale starts from 35°C to 42°C.
- Each degree is divided into 10 parts, so each part equals $\frac{1}{10}$ degree.
- Alcohol is used to sterilize the medical thermometer.
- The normal temperature of a healthy person is 37°C.

O Celsius thermometer:

- It is used to measure the temperature of liquids.
- It doesn't have a constriction.
- Its scale starts from 0°C to 100°C.
- Each degree is represented by one part on its scale.
- 0°C is known as the melting point of ice or the freezing point of water.
- 100°C is known as the boiling point of water.

• Mercury is used in making thermometers because :

- It is a liquid metal.
- It is a good conductor of heat.
- It is a regular expanding material.
- It doesn't stick to the walls of the capillary tube.
- It gives a wide range of temperature measurement [because it remains in a liquid state between (-39°C) and (357°C)].

المعاصر علوم لغات (شرح) 17ب أتيرم ١ (م : ٩)

Questions ?



on Lesson Two



Questions signed by \square have been taken from the school book.

	프로그 X - 프로그,	
Cho	oose the correct answer:	
1.	is used to indicate the te	mperature of weather accurately.
	a. Sense of touch	b. Electric heater
	c. Thermometer	d. Spring scale
2.	The operation of thermometer	depends on the idea of
	a. the change of gas volume w	
	b. the change of liquid volume	with the change in temperature.
	c. the change of gas mass with	the change in temperature.
	d. the change of liquid mass w	ith the change in temperature.
3.	is used to measure the b	oody temperature.
	a. Celsius thermometer	b. Medical thermometer
	c. Spring scale	d. Balance scale
4.	The medical thermometer is ch	naracterized than the Celsius thermometer
	by the presence of a	
	a. mercury bulb.	b. constriction.
	c. capillary tube.	d. scale.
5.		ometer is filled with
	a. alcohol. b. water.	c. mercury. d. air.
6.		raduation of the medical thermometer
	is between	
	a. 37°C to 42°C.	b. 35°C to 40°C.
	c. 35°C to 42°C.	d. 30°C to 50°C.
7.	The temperature of liquids is n	
	a. Celsius thermometer.	b. medical thermometer.
128	c. balance scale.	d. spring scale.
8.	except the	o measure all the following temperatures
	a. patient's temperature.	b. boiling point of water.
	c. melting point of ice.	d. freezing point of water.
	70 MG 에 다시 다음이 다 하다면 그렇게 되는 것이 되는 것이 되었다.	그는 그는 그런 나는 가장하는 사람들이 살아가면 가장 사람들이 살아 없었다.

9.	The used liquid in the Celsius then	mometer is	
	a. alcohol. b. water.	c. hydrogen peroxide.	d. mercury
10.	The melting point of ice is		
	a. 0°C. b. 100°C.	c. 37°C.	d. 42°C.
11.	The scale of Celsius thermometer	ranges between	••
	80 1 1000	b. zero°C to 100°C.	
	c. zero°C to 50°C.	d. 37°C to 42°C.	
12.	thermometer(s) contain(s) a	a constriction.	
	a. The Celsius	b. The medical	
	c. Both Celsius and medical		
13.	There is a constriction above the r	nercury bulb of the me	edical
	thermometer to		
ŀ,	 a. prevent mercury from expansio 		
	b. prevent mercury from returning	back to the bulb quick	ly.
	c. clear the temperature reading.	a de la salend	
	d. measure the liquids temperatur		
14.	We should sterilize the medical the	ermometer by using	
	a. ethyl alcohol.	 b. boiling water. 	
	c. mercury.	d. water.	
15.	Before using medical thermomete	r, we should shake it to	0
	a. sterilize it.		
	b. force the mercury back into the	bulb.	
	c. clean it from dust.		
	d. move the mercury to the top of	the thermometer.	
16.	When the temperature of mercury	increases, its volume	*********
	a. increases regularly and contract	ts.	
	b. decreases regularly and expan	ds.	
E	c. decreases regularly and contra	cts.	
	d. increases regularly and expand	ls.	
17.	All the following are from the prope	rties of mercury except	
	a. good conductor of heat.		
	b. its expansion is regular.		
	c. gives a limited extend to measu	ire the temperature.	
	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		

				TO THE RESIDENCE	°C		
	18.T	he mercury remains in a	a liquid sta	ate between	U.		
	а	. (39:357) b. (39:-	-357)	c. (-39:357)	d. (0 . 100)		
	19.T	he medical thermometer	is differer	nt from Celsius	thermometer in	•••	
	8	the type of matter pres	ents in th	e glass bulb.			
	t	the presence of constr	iction in th	ne capillary tub	е.		
	(the type of matter used	d in manu	facturing.			
	(the effect of change in	temperat	ure on the pres	sent liquid volume.		
	20.1	Every degree in the med	ical therm	ometer is divid	ed into parts.		
	(8	a. 3 b. 5		c. 6	d. 10		
	21.	The lower fixed point in t	he Celsiu	s thermometer	scale represents		
		the freezing point	•				
		a. liquids b. merc	ury	c. water	d. oil		
2	. Put	(✓) in front of the right	statement	s and (×) in fro	ont of the wrong		
-	stat	ements, then correct the	wrong on	es:			
-	1.	We can measure the ter	nperature	accurately by t	ouching.	()
1	2.	The main idea to make	a thermon	neter is changir	ng the mass of liquid		
1		according to the temper				()
	3.	Medical thermometer ar thermometers.	nd Celsius	thermometer a	ire from the types of	,	١
	4.	The medical thermomet	er has a c	anillany tuho to	nrovent many my from	(,
	7.	going back to the mercu		apiliary tube to	prevent mercury from	()
	5.	The scale of the medica		eter starts from	1 37°C to 42°C	ì)
	6.	The scale of the Cels				(
	7.	Each degree in the med	lical therm	ometer is divid	ed into 3 parts	()
	8.	The graduation of clinical	thermome	eter is from 37°(C to 45°C and each	×	ं
		degree is graduated to te	n parts.			()
	9.	You shouldn't sterilize the	ne medica	I thermometer I	pefore use.	()
	10.	You must shake the me	dical therr	nometer to forc	e the mercury back to	0	
	1	the mercury build.				1)
	11.	The Celsius thermore the human being.	neter is us	ed for measuri	ng the temperature of	1	12
		There is a constriction				()
	12	THOIS IS A SOLIDITION	above (ne bulb in the (Celsius thermometer.	()

VC					
13.	The normal temperature of the healthy person is 35°C.		()	
14.	The scale of the medical thermometer starts from zero until 100 Celsius degree.		`	, ,	
15.	. The used liquid in the medical thermometer is water.		()	
	. The medical thermometer is used for measuring the tempera of liquids.	ture		,	
17.	. Mercury is considered from bad conductor substances.		1	1	
	. One of mercury properties is that gives a narrow range to temper measurement.	eratur	e,	`	
19	 Alcohol doesn't stick to the walls of the capillary tube, so it is us making thermometers. 	ed in	,	,	
20	. The melting point of ice is 100°C.		()	
	. The highest degree in the Celsius thermometer represents the water freezing.	degre	e c	of \	
22	. Water is a regular expanding material.		()	
. Wr	ite the scientific term of each of the following :				
	A= !==4	(•••••	٠)	
	. A device used to measure the temperature of the human being.				
	m ^ 1 · · · · · · · · · · · · · · · · · ·	` (
	. 🚨 The liquid used in making thermometers.	(- "	
	. The liquid that is used in sterilizing the medical thermometer.	(. ,)	
	. The part of the medical thermometer that prevents mercury fro				
	back to the bulb.	(····)	
7.	. The thermometer whose scale ranges from 35°C to 42°C.	(•••••	····)	
8.	 A modern device used to measure the body temperature espechildren. 	cially ()
9.	. The thermometer whose scale ranges from 0°C to 100°C.				
	. The melting point of ice.	(
27 27 457	The boiling point of water.	(7.
No.	The liquid metal that is good conductor of heat and used in ma	100			
N 1	Monitorieleis	1			1

. Co	mplete the following statements:
1.	is a device used to measure the temperature.
2.	Liquids by heating and by cooling.
3.	The main idea on which thermometers depend on is changing the of liquid as the changes.
4.	The kinds of thermometers are and
5.	The thermometer is
6.	We can use the thermometer to measure the temperature of human bodies.
7.	The medical thermometer consists of a bulb, with a constriction and a thick transparent glass tube.
8.	The medical thermometer is characterized by the presence of a above the mercury bulb.
9.	There is a constriction in the thermometer.
10.	In the medical thermometer, the prevents mercury from going back to the bulb quickly.
11.	The scale of the medical thermometer starts from and ends at
12.	Each degree in the medical thermometer is divided into parts, so each part equals degree.
13.	The liquid used in the thermometers is
14.	The Celsius thermometer is used in, whereas the medical thermometer is used in
15.	The Celsius thermometer consists of bulb, without constriction and a thick glass tube.
16.	The graduation of Celsius thermometer starts from to
	We use to sterilize the thermometer.
	Mercury is a metal which is a conductor of heat.
19.	Mercury doesn't to the walls of the
20.	is used in measuring temperatures of different liquids, whereas is used in measuring the temperature of the human body.

		thermometer has a constriction, but thermometer doesn't have constriction.
25.5	22.	Water is freezed at°C and boiled at°C.
18	23.	Degree Celsius is the measuring unit of
	24.	Mercury remains in a liquid state between two degrees of temperature which are and
-	j. Giv	ve reasons for the following :
		We can't measure the temperature of objects by touching.
	2.	There is a constriction in the medical thermometer.
	3.	The medical thermometer must be put in ethyl alcohol before using.
	4.	We must shake the medical thermometer well before using.
	5.	The thermometer must be kept out the reach of children.
	6.	The medical thermometer can't measure the temperature of iced water.
	7.	We can't measure the boiling point of water by using the medical thermometer.
	-	
	8.	Mercury is used in making thermometers.
	9,	Mercury gives a wide range to measure the temperature.
	1-5	moroury gives a wide range to measure the temperature.

10. The idea	a of making thermometers depends o	
	changing temperature.	
• What happe		
	al thermometer is put in boiled water	
	ar thermometer is put in solice.	
2. There is thermon	no constriction above the mercury be neter.	ulb in the medical
3. Water is	s used instead of mercury in making t	hermometers.
4. We don'	't shake the medical thermometer we	
**********	dissible services in set sterilined be	fore use
5. The med	dical thermometer is not sterilized be	
		iore use.
6. Increasi		
6. Increasi	ing the temperature of mercury.	
6. Increasi	ing the temperature of mercury. e use of:	
6. Increasi Mention the	ng the temperature of mercury. e use of: meters.	
6. Increasi Mention the	ing the temperature of mercury. e use of: meters. thermometer.	
6. Increasi Mention the 1. Thermo	ing the temperature of mercury. e use of: meters. thermometer.	
6. Increasi Mention the 1. Thermo	ing the temperature of mercury. e use of: meters. thermometer.	
6. Increasi Mention the Thermore Medical Celsius	ing the temperature of mercury. e use of: meters. thermometer.	
6. Increasi Mention the 1. Thermore 2. Medical 3. Celsius 4. Mercury	ing the temperature of mercury. e use of: meters. thermometer. thermometer.	
6. Increasi Mention the Thermology Medical Medical Celsius Mercury	ing the temperature of mercury. e use of: meters. thermometer. thermometer.	
6. Increasi Mention the Thermology Medical Medical Celsius Mercury	ing the temperature of mercury. e use of: meters. thermometer. in thermometers. striction of the medical thermometer.	

. Label the figure.	
<u>1</u>	G
<u>3</u>	
2. This figure shows the structure of	ತ
which is used to measure	
3. What is the function of part 1 ?	2
1. This thermometer is and total for	
. This merinometer is graduated from to to	
This figure shows the Celsius thermometer.	
This figure shows the Celsius thermometer. Answer the following questions:	
This figure shows the Celsius thermometer.	
This figure shows the Celsius thermometer. Answer the following questions:	
This figure shows the Celsius thermometer. Answer the following questions:	1
This figure shows the Celsius thermometer. Answer the following questions:	1
This figure shows the Celsius thermometer. Answer the following questions:	(1) (2)
This figure shows the Celsius thermometer. Answer the following questions: 1. Label the figure. 1	(a)

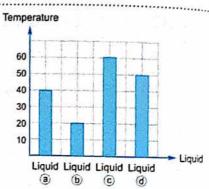
10.
Compare between the medical and the Celsius thermometers in structure and usage.

Points of comparison	Medical thermometer	Celsius thermometer
Structure :		
Usage :		



Thinking Skills Questions

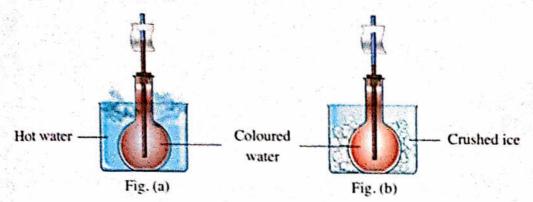
- 1. Rania has a medical thermometer, she wants to measure her body temperature. She wants to sterilize the thermometer using some boiling water.
 - Do you agree with Rania ? (Yes)
 - Give a reason for your choice.
- Ahmed uses his thermometer to measure the temperature of some different liquids.
 He draws the opposite graph for his results.



- a. What is the liquid that has the highest temperature?
- b. What is the liquid that has the lowest temperature ?
- c. What is the type of thermometer that Ahmed used ?
- 3. Choose from columns (B) and (C) what suit them in column (A):

(A)	(B)	©
Lower point of Celsius thermometer	a. 100°C	A. melting point of ice.
Medical thermometer Upper point of Celsius thermometer	b. has no constriction c. has a constriction	B. to 42°C. C. used to measure the temperature of
The range of medical thermometer	d. 0°C	liquids. D. boiling point of wate
5. Celsius thermometer	e. from 35°C	E. used to measure the temperature of human body.

4. Look at the following figures, then answer:



- 1. In fig. (a), the coloured water moves up, because its volumeby
- 2. In fig. (b), the coloured water moves down, because its volume
 by
- 3. From the previous activity, we conclude that liquids expand byand contract by



Project On UNIT TWO



Mercury is the liquid that is used in the medical thermometer because it has many suitable properties. Read the following paragraphs, then write the property of mercury that each paragraph talk about.

1.	There are two persons, one of them his body temperature is 38°C so, the
	heat will be transfered from his mouth to mercury in the bulb and then it rises
	in the capillary tube, while the other person his body temperature is 36°C so,
	the heat will be transfered from mercury in the bulb to his mouth and then
	mercury comes down in the capillary tube.
	(The property:
2.	When the temperature of a human body is normal, the thermometer refers
	to 37°C, and when the amount of heat increases by a certain amount
	the thermometer refers to 37°C and $\frac{1}{10}$ degree. But if the amount of heat
	decreases by the same certain amount the thermometer refers to 36°C and
	9 degree.
	(The property:
J.	You cannot use mercury to measure a temperature equals (- 45°C) or
	a temperature equals (363°C).
() ()	(The property:

UNIT 3

The Atmosphere

LESSONS OF THE UNIT:

- 1. Oxygen.
- 2. Carbon dioxide.
- 3. Nitrogen.



UNIT OBJECTIVES

By the end of this unit, you will be able to :

- Mention the gases composing the air and their proportions.
- Identify the preparation of oxygen in the laboratory.
- · Identify the properties of oxygen.
- Determine the importance and uses of oxygen.
- · Identify the sources of carbon dioxide emission.
- Identify the preparation of carbon dioxide in the laboratory.
- · Identify the properties of carbon dioxide.
- Determine the importance and uses of carbon dioxide.
- · Identify the structure of nitrogen gas.
- · Identify some properties of nitrogen.

Oxygen



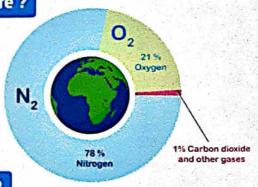
As you had studied, the Earth is surrounded by the atmosphere. The atmosphere is attracted to the Earth by gravity.

The atmosphere: It is a mixture of different gases surrounding the Earth.

What are the components of the atmosphere?

The atmosphere is composed of:

- 1. Nitrogen gas that represents 78%
- 2. Oxygen gas that represents 21%
- Carbon dioxide gas, water vapour and other gases (as argon, neon, helium and others) that represent 1%



What is the importance of the atmosphere?

- 1. It protects the Earth by absorbing ultraviolet radiation coming from the outer space.
- 2. It adjusts the temperature of the Earth's surface.

NOTE

Air pollutants as dust particles, smoke and gases (produced by factories, cars, trains and ships) help in condensation of water vapour and formation of rains or snow.



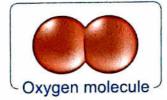
gravity النضاء الخارجي outer space جزيئات النبار dust particles الجاذبية adjust الجاذبية adjust عضبط adjust عضبط ultraviolet عضبط condensation

Oxygen gas:

- Oxygen exists in the atmosphere in a gaseous state.
- It represents 21% $(\frac{1}{5})$ of the air volume.

Structure of oxygen:

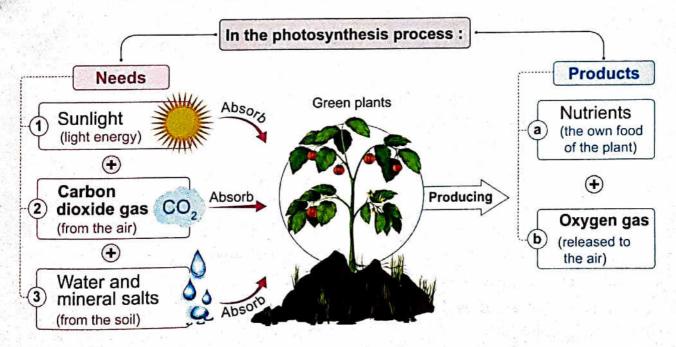
An oxygen molecule (O₂) consists of two oxygen atoms (O), where (O) is the first letter of the word oxygen.



Source of oxygen :

Green plants are the main source of oxygen gas.

Because green plants produce oxygen during photosynthesis process.



So, the percentage of oxygen gas (21%) in the atmosphere remains fixed.

Because the consumed oxygen gas during respiration and combustion processes is compensated by the green plants during photosynthesis process.

molecule べい		אסבות source
عملية البناء الضوئي photosynthesis process	mineral salts أملاح معدنية	nutrients الغذاء
رحتراق	يعوض compensate	

Preparation of oxygen in laboratory:

Oxygen gas is prepared in laboratory by :

The decomposition of hydrogen peroxide (oxygenated water) in the presence of manganese dioxide (as a catalyst) into water and oxygen gas.

Hydrogen peroxide In the presence of manganese dioxide (catalyst)

Water + Oxygen gas

Catalyst:

It is a chemical substance that remains without any change in its quantity and structure during the chemical reaction.



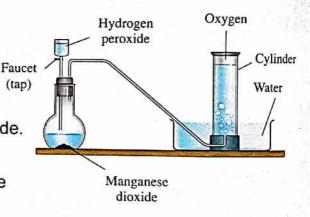
1 To show the preparation of oxygen in laboratory.





Steps:

- Set up the apparatus that is shown in the opposite figure.
- Put an amount of manganese dioxide in the flask.
- 3. Fill the funnel with hydrogen peroxide.
- Open the faucet (tap) to allow the leak of some hydrogen peroxide on manganese dioxide.





Observation:

The formation of a gas at the top of the cylinder.



Explanation:

Oxygen gas replaces water that is found inside the cylinder by the "downward displacement of water".

Because oxygen scarcely (rarely) dissolves in water.

downward displacement ازاحة سُفلية faucet تسرُب downward displacement الكمية faucet الكمية quantity عامل مساعد catalyst يحل محل apparatus يحل محل funnel تُمع chemical reaction ومائر المحية عال معال عالم عليميائي والمساعد funnel تُمع والمساعد عليميائي والمساعد عليميائي والمساعد عليميائي والمساعد المساعد عليميائي والمساعد المساعد المساعد والمساعد المساعد والمساعد والمساع

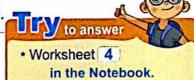


Conclusion:

Hydrogen peroxide dissociates (decomposes) in the presence of manganese dioxide (as a catalyst) into water and oxygen gas.

Scientists helped humanity:

- Oxygen was discovered in China in 800 B.C., then it was re-discovered by Joseph Priestley in August 1774.
- 2. Antoine Lavoisier gave it the name "oxygen" in 1778.

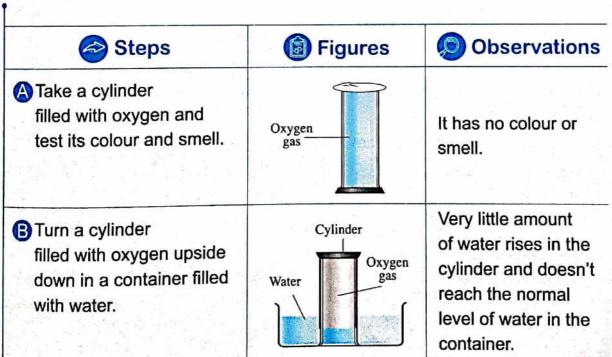


Properties of oxygen:

To explore the properties of oxygen gas, get glass beakers and cylinders filled with oxygen, then carry out the following activities:

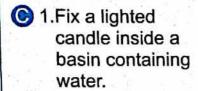


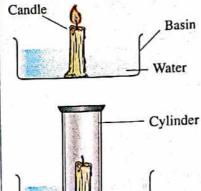
Activity 2 To explore the properties of oxygen.



PROPERTY TO SECOND HOLD OF A PROPERTY OF A P	AND DESCRIPTION OF THE PROPERTY OF THE PROPERT	
dissociate/decompose	یکتشف	أقلب turn upside down
خصائص properties		用的一种的

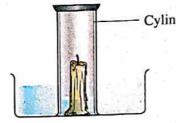
المعاصر علوم لغات (شرح) /١ب/تيرم ١ (م: ١١)



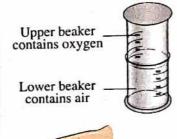


- The lighted candle extinguishes.
- A little amount of water rises inside the cylinder (Because the air inside the cylinder loses one of its components which is oxygen that is consumed by the candle during burning).

2.Cover the candle with a cylinder.

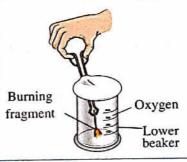


1.Turn a beaker filled with oxygen over another beaker contains air.

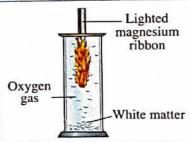


The burning fragment glows more in the lower beaker only. (Because oxygen replaces air in the lower beaker)

2.Insert a burning fragment (burning match) in the upper beaker, then in the lower beaker.



Insert a lighted (burning) magnesium ribbon in a cylinder filled with oxygen.



A white matter is produced.

Wet some iron nails with water and leave them for several days in a humid atmosphere.



The iron nails rust and lose their metallic luster.

humid atmosphere جو رطب rust insert لمعان، بريق luster

burning fragment إدخل

magnesium ribbon

شريط ماغنسيوم عود ثقاب مشتعل

glow

From all the previous activities,	we can	conclude	the properties	s of oxygen
as follows :				

- Oxygen is a colourless, tasteless and odorless gas (as in activity (A)).
- 2 Oxygen scarcely dissolves in water (as in activity B).
- 3 Oxygen doesn't burn, but it helps in burning (as in activity ©).
- 4 Oxygen is heavier than air, so it replaces air (as in activity 10).
- Oxygen combines with lighted (burning) magnesium to form magnesium oxide which is a white matter (as in activity (as)).

QUESTION ?

- Complete the sentences using the following words:

 (oxides manganese dioxide magnesium oxide)
 - 1. Oxygen gas is prepared in laboratory in the presence of
 - 2. Oxygen combines directly with most elements forming
 - 3. Oxygen combines with burning magnesium to form a white matter of

directly

combine مباشرة

heavier يتحد

ثقا

The direct combination between oxygen and most of elements :

Element + Oxygen — ► Element oxide.

Oxygen combines with elements in two ways, which are :

1. Oxidation.

2. Burning (combustion).

1 Oxidation :

It is a slow combination between oxygen and an element in the presence of moisture (water).



Rusted ironware

Example: Iron rusting.

The effect of iron rusting (oxidation):

Iron rusting causes corrosion and damage of ironware as bridges' pillars and ships' pillars.

A method to avoid iron rusting:

Isolating the ironware with paints to protect them from rusting.



Painted ironware

2 Burning (combustion):

It is a rapid combination between oxygen and an element producing heat and light.

Example: Burning a piece of wood or a piece of cleansing wire.



Burning wood

The effect of combustion process:

The mass of an element increases after combustion.

oxidation cleansing wire moisture ironware الأكسدة paints سلك تنظيف isolating

bridges' pillars أجسام معدنية corrosion

حياكل الكبارى تأكل



To show that the mass of an element increases after combination with oxygen (combustion).



Steps:

- 1. Bring two balls of cleansing wire having the same mass.
- 2. By using a pair of tongs, put one ball on the flame.
- 3. When the inner part of the ball becomes red, put it on an aluminium plate until it extinguishes.
- Compare between the mass of the burnt ball and the other ball by using a digital scale.



Observation:

The mass of the burnt ball is heavier than that of the other unburnt ball.







- 1. The mass of an element increases after combination with oxygen.
- The cleansing wire burns quickly, because the outer surface of the wire is large enough to react with oxygen forming iron oxide.

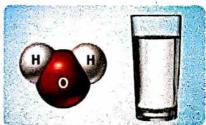
वि

When you burn a ball of cleansing wire strongly, its mass increases. Because oxygen combines with iron forming iron oxide whose mass is higher than that of iron only.

Importance and uses of oxygen:

- Oxygen is important for human and all living organisms as it is used in:
 - a. Respiration and combustion of food inside the living cells to produce energy necessary for all vital processes.
 - b. Formation of water, where a water molecule
 (H₂O) is composed of one oxygen atom
 combines with two hydrogen atoms.





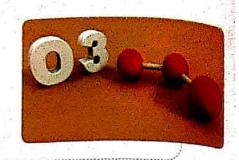
tongs

extinguish ماشة / ملقط نار

نطفئ

Oxygen gas forms the ozone layer in the atmosphere that protects the Earth from harmful radiations that come from the Sun.

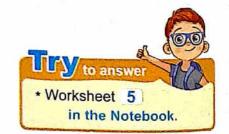
[Ozone molecule (O₃) is composed of three oxygen atoms]



- Oxygen gas is compressed in iron cylinders to be used :
 - a. In mechanical ventilation for patients who suffer from breathing difficulties.
 - b. During surgeries.
 - c. During diving. Because oxygen gas is necessary for respiration under the water surface.
 - d. During climbing mountains.

 Because the percentage of oxygen gas decreases when we rise above the Earth's surface.
- 4 Oxygen combines with acetylene gas to produce oxy-acetylene flame, which is used for cutting and welding metals as its temperature rises to 3500°C.





patient diving welding compress مريض suffer الغوص surgeries لحام

يشكو العمليات الجراحية

mechanical ventilation بضغط climbing mountains

تنفس صناعى تسلق الجبال

86

Remember Lesson One



Atmosphere is composed of :

Nitrogen gas that represents 78%, oxygen gas that represents 21% and carbon dioxide gas, water vapour and other gases that represent 1%

• Preparation of oxygen:

- Hydrogen peroxide In the presence of manganese dioxide (catalyst) Water + Oxygen gas
- Catalyst: It is a chemical substance that remains without any change in its quantity and structure during the chemical reaction.

O Properties of oxygen:

- Oxygen is a colourless, tasteless and odorless gas.
- Oxygen is collected by the downward displacement of water as oxygen rarely dissolves in water.
- 3. Oxygen doesn't burn, but it helps in burning.
- 4. Oxygen is heavier than air, so it replaces air.
- 5. Oxygen combines with lighted magnesium to form magnesium oxide which is a white matter.
- Oxygen has the ability to combine directly with most elements forming oxides.

	Oxidation	Burning (combustion)
Definition :	It is a slow combination between oxygen and an element in the presence of moisture (water).	It is a rapid combination between oxygen and an element producing heat and light.
Example :	Iron rusting.	Burning a piece of wood or a piece of cleansing wire.
Effect :	Iron rusting causes corrosion and damage of ironware as bridges' pillars and ships' pillars.	The mass of an element increases after combustion.

Oxygen is used in:

- Respiration and combustion of food.
- Formation of water.
- Formation of ozone layer.
- Mechanical ventilation, surgeries, diving and climbing mountains.
- Cutting and welding metals by using oxy-acetylene flame.

Questions ?



on Lesson One



Questions signed by \square have been taken from the school book.

_
Interactive
Evercises

, CII	DOSE the correct answer.		
1.	The percentage of oxygen gas in th	e atmosphere is	×:
	a. 12% b. 78%	c. 21%	d. 30%
2.	The most abundant gas in the atm	nosphere is gas	S.
	a. oxygen	b. nitrogen	
	c. carbon dioxide	d. water vapour	
3.	The least percentage in the atmos	sphere is a mixture of	
	a. oxygen and carbon dioxide.	b. carbon dioxide an	d nitrogen.
	c. argon and oxygen.		
Ä,	d. carbon dioxide, water vapour a	nd other gases.	
4.	The atmosphere contains oxygen dioxide gas. What is the arrangen percentage from the highest to the	nent of these gases ac	carbon cording to their
	a. Nitrogen, carbon dioxide and ox	xygen.	
1	 b. Oxygen, nitrogen and carbon d 		
	c. Nitrogen, oxygen and carbon d		
	d. Carbon dioxide, oxygen and nit		4
5.	Which of the following gases is no	ot one of the compone	nts of
	the atmospheric air ?		
i a	a. Oxygen. b. Nitrogen.	c. Carbon dioxide.	d. Ammonia.
6.			
	 a. it absorbs the infrared rays. 	b. it absorbs ultravio	let radiations.
	c. it has oxygen gas.		
N. T	d. it has helium and argon gases.		
7.	The main source of oxygen gas in	air is process	
	a. photosynthesis	b. respiration	
	c. combustion	d. digestion	
8.	Oxygen gas occupies about	, of the air volume.	
Aug T	a. $\frac{4}{5}$ b. $\frac{1}{5}$	c. 1/4 d	<u>3</u>

9.	All the following:	substances are fro	om	the air pollutants except	
	a. dust particles.		b.	smoke.	
	c. gases produce	d by factories.	d.	. oxygen gas.	
10.	The respiration pro	ocess and combust	ion	of food need gas.	
	a. oxygen			nitrogen	
	c. argon		d.	carbon dioxide	
11.		substances are ne	ed	led for the photosynthesis	process
	except				
	a. carbon dioxide	e gas.	b.	water and mineral salts.	
	c. light energy.	N. Carlotte	d.	oxygen gas.	
12	. The symbol of ox	ygen gas is	•••		
	a. O	b. O ₂		O ₃ d. O ₄	
13	. Oxygen is produ	ced from p	oro	cess.	
	a. burning	b. oxidation	C.	photosynthesis d. respira	ition
14	. Respiration and	combustion proces	sse	s consume gas.	
20.0	a. oxygen	b. nitrogen	C.	argon d. carbon	dioxide
15	i. Hydrogen perox	ide is used in prep	ari	ng	
	a. hydrogen gas	S.	b.	oxygen gas.	
	c. nitrogen gas.		d.	carbon dioxide gas.	
16	6 is used a	as a catalyst in the	pre	eparation of oxygen in lab.	
	a. Manganese o	oxide	b.	. Manganese dioxide	
	c. Hydrogen pei			. Magnesium oxide	
17			os	ed in the presence of man	ganese
	dioxide into		12	1. I to U+	
	a. water and oxc. oxygen and h	T - TO.		water and hydrogen.	
1	* * * * * * * * * * * * * * * * * * *	ē	u	hydrogen and nitrogen.	
10	a. Oxygen	esn't burn, but it he b. Nitrogen			
1	9. Oxygen is	(T)	C	. Carbon dioxide d. Hydrog	jen
"	a. heavier	b. lighter	C	colder d hotter	
2		1.00m ().		d. hotter soluble in water.	
-	a. scarcely	b. rapidly		The second secon	
				d. non	

21.	When oxygen combined with an el	ement, the mass o	f the product is
	the mass of the element.		
	a. more than b. less than		d. half
22.	Oxygen combines with lighted mag	gnesium forming a	white matter
	a. magnesium oxide.	b. iron oxide.	
i.	c. manganese dioxide.	d. hydrogen perox	ride.
23	Ozone molecule is composed of	oxygen atom	is.
	a. one b. two	c. three	d. four
24	The rapid combination between ox heat and light is calledpro		s producing
	a. burning	b. oxidation	
	c. respiration	d. photosynthesis	
25	. Water molecule consists of	. atoms.	
	a. one oxygen and two nitrogen	b. two hydrogen a	and one oxygen
	c. two oxygen and one hydrogen	d. two hydrogen a	and one nitrogen
26	gas is used with acetylene	to weld metals.	
	a. Oxygen	b. Nitrogen	
	c. Hydrogen	d. Carbon dioxide	
27	. Oxygen cylinders are used in all th	ne following purpos	es except
	a. during surgeries.	b. in diving.	
	c. in climbing the mountains.	d. photosynthesis	s process.
28	. Oxy-acetylene flame is obtained as	s a result of combin	ation between
	a. oxygen and hydrogen.	b. acetylene and	hydrogen.
i.	c. acetylene and nitrogen.	d. acetylene and	
29		nful radiations comi	ng from the Sun.
	a. Oxygen gas	b. Nitrogen gas	
W.	c. Carbon dioxide gas	d. Ozone layer	
30	. The temperature of oxy-acetylene	flame reaches	
	a. 35°C. b. 350°C.	c. 3500°C.	d. 200°C.

2	Put	() in front of the right statements and (x) in front of the wrong		
	stat	ements, then correct the wrong ones:		
	1.	The atmosphere is attracted to the Earth by the effect of gravity.	()
- 1	2.	Oxygen molecule consists of three oxygen atoms.	()
- 1	3.	Oxygen gas is produced according to the availability of green plants		
		during photosynthesis process.	()
	4.	Oxygen gas occupies 78% of the atmospheric air components.	()
-	5.	Carbon dioxide gas and other gases represent 1% of the volume of		is in
		the atmosphere.	()
		During photosynthesis process, the plant absorbs oxygen gas and		
		produces carbon dioxide gas.	()
	7.	Oxygen gas is prepared from hydrogen peroxide dissociates in		
		the presence of carbon dioxide gas.	()
	8.	Manganese oxide acts as a catalyst in the preparation of oxygen.	()
	9.	Nitrogen peroxide decomposes into water and nitrogen in		
		the presence of manganese dioxide.	()
	10.	Oxygen gas doesn't burn and doesn't help in burning.	(-)
	11.	Oxygen gas is heavier than air.	()
	12.	Oxygen gas is colourless, tasteless and odorless.	()
	13.	Oxygen gas easily dissolves in water.	()
	14.	Oxygen combines with a burning magnesium ribbon forming		
		a white substance.	()
	15.	The mass of a material decreases after combination with oxygen.	()
	16.	The erosion of material which made of iron when exposed to	n Ji	1
		moisture.	()
	İ	Iron oxide results from the combination between iron and oxygen.	()
		Ozone gas is composed of two atoms and it has the symbol of O ₃	()
	1	The molecule of ammonia gas consists of three oxygen atoms.	()
	20.	Ozone layer protects the Earth from the harmful radiations coming fro	m	
		the Sun.	()
		Oxygen cylinders are used during diving and climbing mountains.	()
	22.	Oxy-acetylene flame is used in welding and cutting metals.	()
	-			

	Cor	rect the underlined words:	
	1.	The percentage of nitrogen in the atmosphere is 21%	()
	2.		()
	3.	Nitrogen gas is essential to form rust.	()
	4.	Nitrogen gas is compressed in iron cylinders to be used during	diving and
		climbing mountains.	()
	5.	Oxygen is prepared by downward displacement of air.	()
	6.	Hydrogen peroxide dissociates in the presence of a catalyst to	nitrogen
		and oxygen.	()
	7.	When inserting a lighted magnesium ribbon in a cylinder filled w	ith oxygen
		gas, a <u>black</u> substance is formed.	()
	8.	Carbon dioxide gas combined with acetylene to be used in cutt	ing and
		welding metals.	()
	9.	The oxy-acetylene flame is used in cooking food.	()
	10.	Ozone molecule is composed of two hydrogen atoms and one	• •
		atom.	()
	11.		()
			()
	13.	Ozone molecule is composed of two hydrogen atoms.	()
	Wri	te the scientific term of each of the following:	
	1.	A mixture of different gases that surrounds the Earth's surface a	and
		attracted to it by gravity.	()
	2.	The most abundant gas that forms 78% of the air volume.	()
	3.	The gas that forms 21% of the volume of air.	()
	4.	Objects help in condensation of water vapour and falling rains.	()
	5.	The gas that represents one fifth of the volume of the atmosphere.	()
	6.	The process during which the green plants absorb carbon dioxide	
		presence of sunlight and make the nutrients for living organisms.	
	7.	A gas produced from green plants during photosynthesis process.	
		The gas that is consumed during respiration and combustion pro-	
			()
•	9.	A chemical substance that remains without any change in its qu	uantity and
1			()

10.	A catalyst used in preparation of oxygen gas in laboratory. (
11.	A chemical substance that decomposed into water and oxygen during
á	the preparation of oxygen in laboratory.
12.	A gas that is prepared from hydrogen peroxide.
13.	The way by which oxygen gas is collected during its preparation in
	laboratory.
14.	The scientist that gave oxygen its name in 1778.
15.	The product of combination of oxygen with lighted magnesium. (
16.	A slow union between oxygen and an element in the presence of
	moisture.
17.	A rapid union between oxygen gas and an element producing heat and
	light. ()
18.	The product substance from the combination of magnesium and oxygen.
	()
19.	A layer in the atmosphere that protects the Earth from harmful radiations
	coming from the Sun.
	A gas that its molecule is composed of three oxygen atoms. ()
21.	A gas combines with oxygen to produce a flame whose temperature is
	sufficient to weld and cut metals. (
22.	A flame whose temperature reaches 3500°C and used in cutting and welding metals.
	mplete the following statements :
1.	The atmosphere consists of a mixture of surrounding
2.	The atmosphere is attracted to the Earth by the effect of
3.	The percentage of oxygen gas in atmosphere equals
4.	Carbon dioxide and other gases form of the volume of the atmosphere.
5.	Smoke and dust particles that present in the atmosphere help in
	the of water vapour and falling it in the form of or
6.	gas is used in photosynthesis process and gas evolves from this process.
7.	Oxygen molecule consists of oxygen atoms, while molecule consists of three oxygen atoms.
0	The oxygen gas is produced plentifully from during process.
8.	The oxygen gas to process.

	9.	Oxygen gas of the atmosphere is consumed during and processes.
	10.	Oxygen gas is prepared by the decomposition ofin the presence ofin
	11.	During preparation of oxygen, hydrogen peroxide is dissociated into
	12.	During the preparation of oxygen gas in the laboratory, oxygen is collected by the downward displacement of
	13.	The catalyst remains without any change in its and during the chemical reaction.
	14.	was the scientist that gave oxygen gas its name in 1778.
		Oxygen gas is scarcely soluble in
		Oxygen gas is than air, so it can replace air.
		doesn't burn, but helps in burning.
		Oxygen gas combines directly with most elements forming
	Aurilla III	+ lighted magnesium
	20.	The rapid combination between oxygen and elements producing heat
		and light is called
	21.	The slow combination between oxygen and elements in the presence of moisture is called
	22.	Iron combines with oxygen forming
		causes corrosion of ironware such as bridges' pillars.
		Ironware must be isolated by to protect them from
	T.	The mass of the materials after combination with oxygen.
		molecule consists of two hydrogen atoms and one oxygen atom.
	27.	The layer protects the Earth from harmful radiations that come from the Sun.
1	W-10	and are from the uses of oxygen gas.
	29.	suffer from breathing difficulties.
(A)		Oxygen is used in climbing mountains, because oxygen percentage
		when we rise above the Earth's surface.

31,	Divers use cylinders during diving under water.
32.	Oxygen combines with acetylene gas to produce
	Oxy-acetylene flame is used for and of metals.
	The temperature of oxy-acetylene flame rises to °C that is sufficient to melt metals.
. Gi	ve reasons for the following :
1.	Although oxygen is consumed during respiration, its percentage remains stable in the atmosphere.
2.	Although smoke and dust particles are considered as air pollutants, they have an important role in the formation of rains and snow.
3.	The atmosphere has a great importance for the continuity of life on the Earth.
4.	Oxygen is collected by displacing the water downward in the jar during preparation at the laboratory.
5.	Manganese dioxide remains without any change in its quantity and structure during the preparation of oxygen.
6.	Manganese dioxide acts as a catalyst during the preparation of oxygen.
7.	When you turn a cylinder filled with oxygen over another cylinder filled with air, oxygen gas replaces the air in the lower cylinder.
8.	A burning match is still burning when it is placed in a cylinder filled with oxygen.

When you burn a ball of cleansing wire strongly, its mass increases.
10. Rusting of iron has many disadvantages.
11. Iron nails rust when exposed to moist air.
12. Oxygen cylinders are used during climbing mountains.
13. Oxy-acetylene flame is used for cutting and welding metals.
14. Ozone layer is very important for the life of all living organisms.
15. Divers use oxygen cylinders during diving under the water surface.
16. The pillars of the bridges are isolated from the atmospheric air by paints.
₩rite the properties of oxygen gas.
What is meant by each of the following ? 1. The atmosphere.
2. Burning (combustion).
3. Oxidation.
4. Catalyst.

1.	Ozone layer.
2.	Oxy-acetylene flame.
3.	Atmosphere.
4.	Manganese dioxide during the preparation of oxygen in the laboratory
5.	Hydrogen peroxide during the preparation of oxygen in the laboratory.
n	
	Oxygen has a great importance for life on the Earth, where water cons of oxygen combined with hydrogen. Give other examples of the importance of oxygen and its uses.
	Oxygen has a great importance for life on the Earth, where water cons of oxygen combined with hydrogen.
1. cc	Oxygen has a great importance for life on the Earth, where water cons of oxygen combined with hydrogen. Give other examples of the importance of oxygen and its uses.
1. cc	Oxygen has a great importance for life on the Earth, where water cons of oxygen combined with hydrogen.
1. co	Oxygen has a great importance for life on the Earth, where water cons of oxygen combined with hydrogen. Give other examples of the importance of oxygen and its uses. That happens when?
2. v	Oxygen has a great importance for life on the Earth, where water cons of oxygen combined with hydrogen. Give other examples of the importance of oxygen and its uses. That happens when? There is no atmosphere. There is no oxygen in the atmosphere.

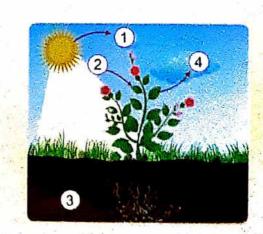
5.	A lighted magnesium ribbon is placed in a jar filled with oxygen.
6.	The percentage of oxygen gas decreases in the atmosphere.
7.	Putting a burning fragment in a cylinder filled with oxygen.
8.	The mass of cleansing wire after burning.
9.	Hydrogen peroxide is dropped over manganese dioxide.
10.	The bridges' pillars are not isolated with paints.

13. Compare between oxidation and burning.

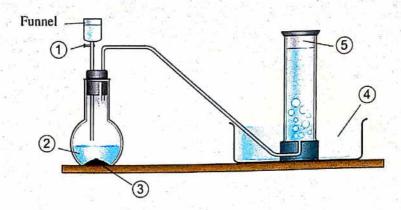
Points of comparison	Oxidation	Burning
1. Definition :		
2. Example :		

14.	Notice the opposite figure that represents
	the photosynthesis process, then write
	the labels.

~	1
(1)	



15. The shown apparatus represents the preparation of oxygen gas in laboratory.



a.	Write	the	labels	indicated	by	the	numbers.
----	-------	-----	--------	-----------	----	-----	----------

(1)	2)	(3)	
4	5		
b. How is oxygen gas co	ollected ? Why ?		

16. Think and answer:

If you know that oxygen does not burn but helps in burning.

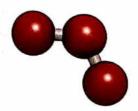
What happens to our lives if the oxygen percentage in the air is more than 21%



Thinking Skills Questions

 Look at the opposite two figures carefully, then answer the question under each figure:







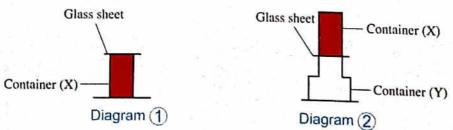


This figure represents a (an) molecule.

This figure represents a (an) molecule.

This figure represents a (an) molecule.

- 2. Why can a small fire be put out by placing a heavy blanket over it?
 - a. Because this lowers the temperature.
 - b. Because this makes the flames smaller.
 - c. Because this absorbs the burning substance.
 - d. Because this keeps oxygen from reaching the fire.
- $oldsymbol{3}_{oldsymbol{\cdot}}$ Diagram $oldsymbol{1}$) shows a container (X) that is filled with a material that could be a solid, liquid or gas. The container has been closed with a glass sheet. Container (X) is placed upside down on an empty container (Y), as shown in diagram (2).



If the glass sheet is removed, which of the figures below shows what you would see if the material in container (X) is a gas ?



Figure (a)

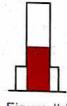


Figure (b)

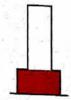


Figure (c)

Give a reason for your choice.

4. The mass of a piece of cleansing wire shown in the figure is 20 gm. If you burn it, then measure its weight using a spring scale.



So, its weight may be equal to Newton.

a. 0.02

b. 0.2

c. 0.3

d. 0.01

5. In the following figures, the two pieces of cleansing wire are combined with oxygen in two ways.

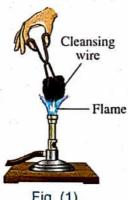


Fig. (1)

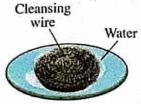


Fig. (2)

- 1. Fig.(1) shows process.
 - a. oxidation
- b. freezing
- c. burning
- d. condensation

- 2. Fig.(2) shows process.
 - a. condensation
- b. oxidation
- c. freezing
- d. burning

Carbon dioxide



Carbon dioxide is necessary for green plants to make photosynthesis process to produce their own food and release oxygen.

Percentage of carbon dioxide:

- It represents 0.03% of the volume of the atmosphere.
 But, its percentage increases due to :
 - · The removal of forests.
 - Burning massive amounts of fuel in factories and means of transport.



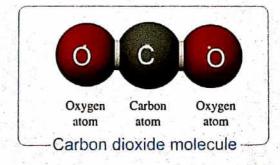
Removal of forests



Burning of fuel in means of transport

Structure of carbon dioxide:

- Carbon dioxide (CO₂) is a chemical compound found in the form of a gas in its natural state in the atmosphere.
- The molecule of carbon dioxide consists of one carbon atom linked with two oxygen atoms.



غابات forests مُركب compound مُرتبطة linked كسيات كبيرة massive amounts إزالة

Sources of carbon dioxide :

Carbon dioxide is produced from :

1 Respiration of all living organisms :

All living organisms take oxygen gas during inhalation process and produce carbon dioxide gas during exhalation process.







Plant

2. Combustion of organic materials :

- Wood.
- Gasoline.
- Coal.
- Candle.

- Oil.

- Tobacco (the material of cigarettes).







Coal



Tobacco

3. Combustion of fuel in factories and means of transport :







Train



Factory

inhalation exhalation combustion الشهيق الزفير

إحتراق

organic materials coal

fuel المواد العضوية

means of transport الفحم

قود سائل المواصلات

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limewater

Detection of carbon dioxide:



To show that carbon dioxide gas is produced during exhalation (respiration) process.

Juice

straw

(Clear limewater is used to detect the presence of carbon dioxide gas)



- 1. Put an amount of clear limewater in a test tube.
- 2. Blow in limewater for two minutes using a juice straw.

Observation:

The clear limewater becomes turbid (milky).



Clear limewater (calcium hydroxide) turns into milky when carbon dioxide gas passes through it.

Due to the reaction between carbon dioxide gas and calcium hydroxide forming a white precipitate (ppt.) called calcium carbonate that doesn't dissolve (insoluble) in water.



- 1. Exhaled air contains carbon dioxide gas.
- 2. Carbon dioxide gas turbids the clear limewater.

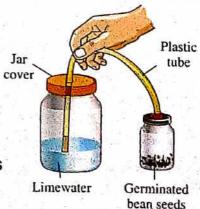


To show that carbon dioxide gas is produced during respiration of plants.



Steps:

- Germinate some bean seeds in a jar on a wet cotton or wet sawdust.
- Make a hole in the jar cover and insert a plastic tube through it as shown in the figure.
- 3. Insert the other end of the tube in a jar contains clear limewater and leave them for a while.



juice straw precipitate turbid ماصة عصير insolubli راسب

germinate معكر غير ذائب sawdust ئىت. ئىلى:

المعاصر علوم لغات (شرح) / ٦ب / تيرم ١ (م : ١٤)

105



0

Observation:

The clear limewater turns into milky (turbid).

Conclusion:

Carbon dioxide gas is produced during respiration of plants.

Activity 3

To show that carbon dioxide gas is produced during combustion of organic materials as a candle.

Steps	(iii) Figures	Observations
Put a lighted candle in a cylinder, then cover the cylinder with a glass cover.	Cylinder Glass cover	After a while, the candle is extinguished.
2. Remove the glass cover and pour a little amount of clear limewater inside the cylinder and cover it again.	Turbid	Clear limewater turns into milky (turbid).



Conclusion:

Carbon dioxide gas is produced during combustion of organic materials as a candle.

QUESTION ?

Choose the correct answer :

- 1. The molecule of carbon dioxide consists of
 - a. one carbon atom and one oxygen atom.
 - b. two carbon atoms and one oxygen atom.
 - c. one carbon atom and two oxygen atoms.
 - d. two carbon atoms and two oxygen atoms.
- 2. All the following examples are sources of carbon dioxide gas except
 - a. respiration of all living organisms.

b. photosynthesis process.

c. combustion of organic materials.

d. combustion of fuel.

extinguished

بنطفىء

Preparation of carbon dioxide (CO₂) in laboratory:

Carbon dioxide gas is prepared in laboratory by the reaction between dilute hydrochloric acid and calcium carbonate.



To show the preparation of carbon dioxide gas in laboratory.

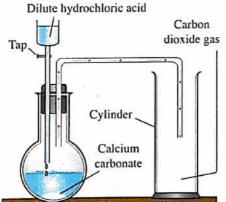


Steps

- 1. Set up the shown apparatus as in the opposite figure.
- Pour some dilute hydrochloric acid on calcium carbonate that is found in the flask.



📵 Figure



Observation

Carbon dioxide gas evolves, then passes in the tube to be collected in the cylinder.



- 1. Carbon dioxide gas is prepared by adding dilute hydrochloric acid to calcium carbonate.
- 2. Carbon dioxide gas is collected by the upward displacement of air. Because it is heavier than air.
- 3. Carbon dioxide gas is not collected by displacement of water. Because it easily dissolves in water.



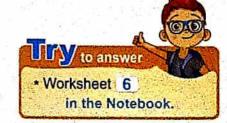


Carbon dioxide is collected by upward displacement of air not by downward displacement water.

Because carbon dioxide is heavier than air and easily dissolves in water.



Carbon dioxide gas is also prepared by adding lemon juice or vinegar to sodium bicarbonate (baking powder).



upward إضافة

Properties of carbon dioxide (CO₂):

To know the properties of carbon dioxide, take cylinders filled with carbon dioxide gas to do the following activities:



To show the properties of carbon dioxide gas.

Steps	(iii) Figures	Observations	
Turn a cylinder filled with CO ₂ upside down on a lighted candle.	CO ₂	The lighted candle will extinguish.	
Insert a lighted magnesium ribbon in a cylinder filled with CO ₂	Magnesium ribbon Carbon (black substance) Magnesium oxide (white powder)	Magnesium ribbon keeps burning for a short time, then extinguishes forming a white powder and a black substance that deposits on the wall of the cylinder.	
Squeeze half a lemon on a beaker that contains a little amount of sodium bicarbonate.	Lemon Sodium bicarbonate	Emission of carbon dioxide gas that has no colour or smell.	

deposit

squeeze بتر-

emission أغصر

From all the previous activities, we conclude that the properties of carbon dioxide gas are :

1	Carbon dioxide doesn't burn and doesn't help in burning,
	so it is used in extinguishing fires (as in activity (A)).

- Carbon dioxide reacts with lighted magnesium forming magnesium oxide (white powder) and carbon or coal (black substance) that deposits on the wall of the cylinder (as in activity (B)).
- 3 Carbon dioxide is a colourless and odorless gas (as in activity (6)).
- Carbon dioxide is heavier than air, so it is collected by the upward displacement of air.
- Carbon dioxide easily dissolves in water, so it is not collected by the displacement of water.



Carbon dioxide gas is used in extinguishing fires.

Because carbon dioxide gas doesn't burn and doesn't help in burning.

QUESTION ?

	100			
¥	Complete	the	following	sentences

- 1. We can get carbon dioxide gas, by adding dilute to to
- 2. Carbon dioxide reacts with lighted magnesium forming and
- 3. gas doesn't burn and doesn't help in burning.
- 4. During preparation of carbon dioxide, it is collected by of air.
- 5. When adding lemon juice to sodium bicarbonate, gas is produced.

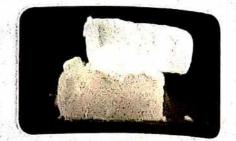
Importance and uses of carbon dioxide:

Carbon dioxide gas is used in :

1

Making dry ice which is used in refrigeration, where:

Carbon dioxide and cooling Liquid by relieving pressure pressure ice.



2

Extinguishing some types of fires.



3

Making soft drinks.



4

Making bubbled bread.

(Where by adding yeast to dough, carbon dioxide is produced by fermentation process and expanded by heat making bread porous and tasty).



5

Photosynthesis process.

(Where during this process, green plants use carbon dioxide to produce their own food and oxygen gas).



relieving refrigeration fermentation تخفيف

porous التبريد

dough التخمر dry ice مسامی

عجينه

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Disadvantages (harms) of carbon dioxide:

Increasing the percentage of carbon dioxide gas in air causes:

1

Suffocation of living organisms.



2

Global warming phenomenon. (Which means increasing the temperature of the Earth's atmosphere).



Life application of carbon dioxide gas:

Scientists call soft drinks "the useless food".
 Because it doesn't contain any nutrients except sugar.

Drinking big quantities of soft drinks means that you swallow a big amount of carbon dioxide that causes osteoporosis (bone disease) and may cause death.

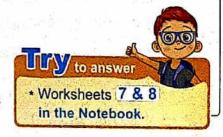


Soft drinks

Because the amount of carbon dioxide increases in the blood, that leads to not getting the oxygen needed for vital processes of your body.

Enrichment information

- Carbon dioxide is called the "silent killer", because we cannot see it or even smell it.
- Breathing in a closed place (bad ventilated place) leads to a gradual decrease in oxygen and an increase in carbon dioxide, so man gets suffocated and loses consciousness, then dies.



suffocation اختناق killer global warming phenomenon consciousness ظاهرة الاحتباس الحرارى bad ventilated disadvantages / harms

useless القاتل osteoporosis الرعى gradual ردى التهرية عديم الفائدة مشاشة عظام تدريجي

Remember Lesson Two



- Carbon dioxide gas (CO₂) represents 0.03% of the volume of the atmosphere.
- Carbon dioxide molecule consists of one carbon atom linked with two oxygen atoms.
- Carbon dioxide is produced from:
 - Respiration of all living organisms.
 - Combustion of organic materials and fuel.
- Carbon dioxide gas is prepared in the laboratory by adding dilute hydrochloric acid to calcium carbonate.
- Carbon dioxide is collected by the upward displacement of air as it is heavier than air.
- Carbon dioxide doesn't burn and doesn't help in burning, so it is used in extinguishing fires.
- Carbon dioxide reacts with lighted magnesium forming magnesium oxide (white powder) and carbon or coal (black substance) that deposits on the wall of the cylinder.
- Carbon dioxide is used in :
 - Making dry ice which is used in refrigeration.
 - Extinguishing some types of fires.
 - Making soft drinks and bubbled bread.
 - Photosynthesis process.

Process	Gas used	Gas produced Oxygen gas Carbon dioxide gas	
Photosynthesis	Carbon dioxide gas		
Respiration	Oxygen gas		

Questions ?



on Lesson Two



Questions signed by

have been taken from the school book.	Interactive Exercises

•	-	noose the con	ect answer.					
	1.	. The percentage of carbon dioxide gas in air is						
		a. 1%	b. 0.03%	c. 21%	d. 78%			
	Carbon dioxide molecule consists of							
a. one oxygen atom and two carbon atoms. b. one carbon atom and two nitrogen atoms.								
		d. one carbo	n atom and one o	xygen atom.				
	3.	The gas whi						
		a. oxygen.	b. nitrogen.	c. carbon did	oxide. d. ozone.			
		a. CO	b. CO ₂	c. CH ₄	d. C ₂ O ₂			
	5. Carbon dioxide is produced from all the following examples except							
	a. exhalation process. b. ph			b. photosynt	b. photosynthesis process.			
				d. combustio	combustion of fuel.			
6	6.	. Photosynthesis process depends on the presence of gas.						
		a. oxygen	b. nitrogen	c. carbon dio	xide d. ozone			
7	7. Calcium carbonate is used in preparation of gas.							
		a. hydrogen		b. oxygen				
		c. nitrogen		d. carbon dio	xide			
8		Carbon dioxid	le gas evolves by	adding diluted hy	drochloric acid to			
1		the powder of		91 (4) 11 1 (8) (8) (6)	i vitati.			
		a. calcium cai	bonate.	b. calcium ox				
	i de y	c. calcium hyd	droxide.	d. calcium ch	loride.			
9		Removal of for	ests leads to incre		age of gas in air.			
		a. nitrogen	b. oxygen	c. carbon dio	kide d. hydrogen			
1(). (Carbon dioxid	e gas is collected	by				
8		a. upward displacement of air.						
2		b. upward displacement of water.						
	1	c. downward displacement of air.						
*	d. downward displacement of water.							



11gas is prepared by addin	g dilute hydrochloric acid to calcium
carbonate.	그 그렇다 이 그는 다음이 그 그만든 작에는 어떻을까지 않았다.
a. Oxygen b. Nitrogen	c. Carbon dioxide d. Neon
12. We can't collect carbon dioxide of	gas by
a. upward displacement of air.	b. downward displacement of air.
c. displacement of water.	d. displacement of air.
13. We can extinguish fire using	gas.
a. carbon dioxide	b. oxygen
c. nitrogen	d. hydrogen
	ough clear limewater, it becomes turbid
forming substance called	b. calcium carbonate.
a. calcium chloride.	d. calcium sulphate.
c. sodium carbonate.	
15. When a magnesium ribbon keeps	burning for a short time in a cylinder
containing CO ₂ , it produces	b. magnesium oxide and carbon.
a, oxygen and carbon.	d. magnesium oxide only.
c. carbon only.	
16. A gas which turns limewater into	c. carbon dioxide d. ozone
, , , , , , , , , , , , , , , , , , , ,	
17. Adding lemon juice to sodium bi	b. oxygen
a. carbon dioxide	d. argon
c. nitrogen	oon is inserted in a jar containing carbon
dioxide gas, element de	posits on the wall of the jar.
	c. carbon d. oxygen
19. Carbon dioxide is used in the inc	
a. steel.	b. gunpowder.
c. fertilizers.	d. soft drinks.
MENT AND CONTRACTOR OF THE	is produced and expanded by heat,
so it makes bread porous and ta	
a. oxygen gas	b. carbon
c. carbonate	d. carbon dioxide gas
21. All the following are properties of	f carbon dioxide gas except
a. it is a colourless and odorless	the provide the control of the second control of the provide the control of the c
b. it rarely dissolves in water.	
c. it doesn't burn and doesn't he	elp in burning.
d. it is heavier than air.	

					100		
1	-		-	-	т	W	•
		33					•

(A)	(B)	
Respiration process	a. is used to prepare limewater.	
2. Calcium carbonate	b. CO ₂	
The reaction between calcium hydroxide and carbon dioxide	c. is opposite to photosynthesis proces d. is used to prepare carbon dioxide ga	
Carbon dioxide gas is symbolized by	e. forms calcium carbonate. f. C₂O	
1 2	3 4	
make food for all living organism 3. Increase of oxygen in air raises atmosphere.	the temperature of the Earth's	(
, ,	of combustion of wood, tobacco	1
and coal.		(
and coal. Combustion process and respire	ation of all living organisms are	(
and coal.Combustion process and respirateresources of carbon dioxide gas	ation of all living organisms are	(
and coal. Combustion process and respirate resources of carbon dioxide gas. Gasoline is the material that is u	ation of all living organisms are . sed in making cigarettes.	(
 and coal. Combustion process and respirate resources of carbon dioxide gas. Gasoline is the material that is understand the collected during its prodisplacement of air. 	ation of all living organisms are . sed in making cigarettes. eparation in laboratory by upward	(((
and coal. Combustion process and respirate resources of carbon dioxide gas. Gasoline is the material that is used to detect the process. Limewater is used to detect the process.	ation of all living organisms are . sed in making cigarettes. eparation in laboratory by upward presence of nitrogen gas.	((((((((((((((((((((
and coal. Combustion process and respirate resources of carbon dioxide gas. Gasoline is the material that is used to detect the particular of air. Limewater is used to detect the particular of air.	ation of all living organisms are . sed in making cigarettes. eparation in laboratory by upward	((((((((((((((((((((
and coal. Combustion process and respirate resources of carbon dioxide gas. Gasoline is the material that is used. Oxygen is collected during its prodisplacement of air. Limewater is used to detect the passing carbon dioxide gas throught	ation of all living organisms are sed in making cigarettes. eparation in laboratory by upward presence of nitrogen gas. ugh clear limewater turns its colour	((((((((((((((((((((
and coal. Combustion process and respirate resources of carbon dioxide gas. Gasoline is the material that is used. Oxygen is collected during its prodisplacement of air. Limewater is used to detect the passing carbon dioxide gas through	ation of all living organisms are sed in making cigarettes. eparation in laboratory by upward presence of nitrogen gas. ugh clear limewater turns its colour	(() () ()

22. Which of the following is from the uses of carbon dioxide gas?

1	 Calcium carbonate is a chemical substance that is soluble in w 	ater. (
1	Carbon dioxide gas turbids the clear limewater.	i i
1	3. Exhaled air contains a large amount of carbon dioxide gas.	
1	4. Oxygen is produced from the respiration of bean seeds.	
	5. Formation of a black ppt. when carbon dioxide gas is passed o	n '
	a clear limewater.	()
10	6. During photosynthesis process, the plant produces oxygen gas	3.
	7. Carbon dioxide is prepared by downward displacement of air.	- ()
	8. Dilute hydrochloric acid reacts with sodium chloride to produce	
	carbon dioxide gas.	()
19	Carbon dioxide gas is evolved due to the reaction between sod	lium
	bicarbonate and lemon juice.	()
	Carbon dioxide gas doesn't burn and doesn't help in burning.	()
	Air is heavier than carbon dioxide gas.	()
22	2. Carbon dioxide scarcely dissolves in water.	()
	Carbon dioxide gas is used in making dry ice and soft drinks.	()
24	1. Carbon dioxide is used in extinguishing fires, because it helps	
	in combustion.	()
25	Yeast is added to dough to produce CO₂ which makes the brea	d porous
	and tasty.	()
26	From the characteristics of oxygen gas, that it is a colourless ar	nd 🦠
	odorless gas and easily dissolves in water.	()
. V	Write the scientific term of each of the following:	
1.	The good that former 0.000% and	
2.		()
-	avvaan atama	the state of the s
3.	The state of the s	()
4.	The gas that raises the Earth's temperature when its percentag	()
	increases in air	
5.	The metasial that is some life and the	()
6.	A chemical substance that is used to detect the presence of car	()
-	diovide das	0.00
7.	A gas that produced from respiration and comes out with exhala	()
20 1	nrocess	2"
		()

8.	A chemical substance formed when carbon dioxide gas passed clear limewater.	
9.		()
٥.	A chemical substance added to calcium carbonate during the post carbon dioxide gas.	
10	The method that is used to collect carbon dioxide gas during	()
10.	its preparation.	()
11	It is produced as a result of the reaction between lemon juice a	,
	bicarbonate.	()
12.	A gas that doesn't burn and doesn't help in burning.	1.5
	The gas that is heavier than air and easily soluble in water.	
	The gas that turns limewater into turbid.	
	A black substance deposits on the wall of a cylinder when putt	ing
	a lighted magnesium ribbon in the cylinder filled with carbon diox	
		()
16.	A gas that is used in making soft drinks and dry ice.	()
	A gas that is used in extinguishing fires.	()
	It is added to dough to produce carbon dioxide gas during ferr	nentation
WE 500	process.	()
19.	The process that results from adding yeast to dough and carb	on dioxide
	gas is produced.	()
20.	A gas that causes suffocation for living organisms.	()
21.	A gas that the increase in its percentage causes global warming	g.().g
22.	A phenomenon occurs due to the increase in the percentage of ca	rbon dioxide
110.000	gas in air which raises the Earth's temperature.	()
. Co	mplete the following statements :	
1.	The percentage of carbon dioxide gas in atmospheric air is	and
	has the symbol	
2.	Carbon dioxide molecule consists of one atom linked	with two
gill P	atoms.	* *
3.	Removal of forests leads to the increase in the percentage of	gas in air.
4.	Combustion of big amounts of in factories and means	of
	transport lead to increase the percentage of gas in air	
5.	Carbon dioxide which is produced from and pr	ocesses
	turbids the clear limewater.	
6.	is a chemical substance used to detect the presence	of carbon
	dioxide gas in air.	
5 3		The second second

	7	Carbon dioxide gas is produced as a result of the combustion of
		substances such as and also produced from of living
	441	organisms.
	R	In photosynthesis process, the plant absorbs gas and
	0.	produces gas, while in respiration process gas is
	2.0	consumed and gas is produced.
	0	gas is very important in photosynthesis process of green plants.
	10	During respiration of bean seeds, gas is produced.
	10.	Exhalad air contains a large amount of Qas.
	11.	Exhaled air contains a large amount of gas.
	12,	Carbon dioxide turns the clear limewater into due to the formation
	13.	Limewater turns into milky in the presence of due to the formation
		of which insoluble in water.
	14.	Carbon dioxide gas is prepared in laboratory by dropping
		over
	15.	gas can be obtained on adding dilute hydrochloric acid to
	. 1	calcium carbonate.
	16.	Carbon dioxide gas is collected by displacement of as it is
		than air.
	17	Carbon dioxide gas is not collected by displacement of water,
	1 11	because it
	18	and are from the properties of carbon dioxide gas.
	19	On putting a lighted magnesium ribbon in a cylinder filled with CO ₂
١		a white substance of is formed and deposits on the wall
-	20	of the cylinder. Carbon dioxide gas is used in extinguishing fires as it doesn't
	20	and doesn't
	24	. Que Carbon dioxide gas is changed by and to liquid then
	21	pressure is relieved composing which is used in refrigeration.
	22	gas is used in making soft drinks.
	34,133,15	. Yeast is added to dough to produce which makes the bread
	20	and
	24	. Green plants use gas to make photosynthesis process to produce
	2	and
	25	gas is used in refrigeration, while gas is used in welding
		metals.
	26	. Increase the percentage of carbon dioxide in air causes and
	The second	

9.44	ive reasons for the following: The environment suffers from increasing of the percentage of carbon dioxide gas in recent years.
2.	Cutting forests leads to the increase in the percentage of carbon dioxide gas in nature.
3.	Decreasing the green areas harm the environment.
4.	The clear limewater is used in detection of carbon dioxide gas.
- 5 .	Clear limewater becomes turbid when carbon dioxide passes in it.
6.	Carbon dioxide gas is collected by upward displacement of air.
7.	Carbon dioxide gas is not collected by downward displacement of water.
8.	Carbon dioxide is used in extinguishing fires.
9.	Burning a magnesium ribbon in the presence of carbon dioxide gas produces white and black substances.
10.	Yeast is added to the dough on making bread.
11.	Photosynthesis process is important for plants and all living organisms.
12.	Carbon dioxide gas has a great vital importance in life continuity on the Earth's surface.

14	. Increasing the percentage of carbon dioxide gas in air is dangerou
	/hat happens when? Most forests on the Earth are removed.
2.	One carbon atom linked with two oxygen atoms.
}.	You blow in a jar contains clear limewater.
	Dilute hydrochloric acid is dropped over calcium carbonate.
	Lemon juice reacts with sodium bicarbonate.
	A lighted candle is put in a cylinder filled with carbon dioxide gas.
.)	A lighted magnesium ribbon is inserted in a cylinder filled with CO ₂
	The pressure on liquefied carbon dioxide is relieved.
,	Yeast is added to dough during making bread.
). I	The percentage of carbon dioxide in the air increases.
. [The percentage of carbon dioxide in the air decreases.
	Prinking big quantities of soft drinks.

8.	Compare between oxygen gas and carbon dioxide gas according
	to their properties. (Three points only)

Oxygen gas	Carbon dioxide gas
	.
	.

Vhat is the importance of? 1. Carbon dioxide gas.			-	

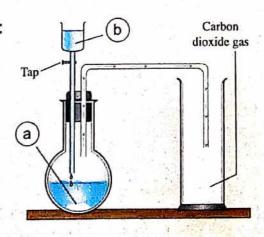
2. Limewater.		 	*********	
3. Dry ice.		 		
4. Yeast in making bread.		 		
łow can you obtain carbon dioxide g	as from :			
a. Calcium carbonate.				

11. Look at the opposite figure, then answer:

- Write what represents each label on the figure :
 - Substance (a):
 - Liquid (b):

b. Wood.

- 2. Mention the uses of carbon dioxide gas:
 - (1)
 - (2)



المعاصر علوم لغات (شرح) / ٦ب/تيرم ١ (م: ١٦)



Thinking Skills Questions

- 1. When you light up a candle, it
 - a. produces oxygen and carbon dioxide.
 - b. consumes oxygen and carbon dioxide.
 - c. consumes oxygen and produces carbon dioxide.
 - d. produces oxygen and consumes carbon dioxide.
- The amount of carbon dioxide in the air is increasing in Cairo due to the growing number of cars. The governorate wants to plant more trees.

Do you agree with the governorate's suggestion?

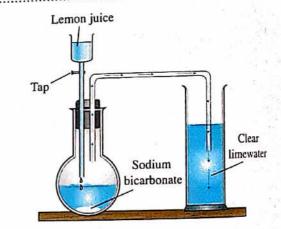
(Check one box)



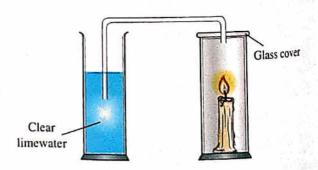


Explain your answer.

- 1. When you open the tap, lemon juice reacts with sodium bicarbonate producing gas.
 - 2. What happens to the clear limewater in the cylinder?
 - When carbon dioxide reacts with clear limewater a white substance is produced known as



- 4. After a while in this activity:
 - The candle will because it consumes the gas.
 - Limewater turns into due
 to the passage of gas
 through it.
 - 3. This activity proves thatgas.



5. Look at the following figures, then answer the questions:

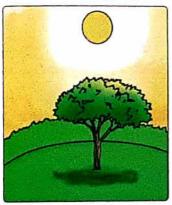


Fig. (1) (In the morning)



Fig. (2) (At night)

- 1. The tree in fig. (1) undergoes
 - a. respiration process only.
- b. photosynthesis process only.
- c. respiration and photosynthesis processes.
- 2. The tree in fig. (2) undergoes
 - a. respiration process only.
- b. photosynthesis process only.
- c. respiration and photosynthesis processes.
- 3. During the photosynthesis process in green plants are produced.
 - a. oxygen and nutrients.
 - b. carbon dioxide and oxygen.
- c. carbon dioxide and nutrients
- 4. During the respiration process in green plants
 - a. oxygen is used.

- b. carbon dioxide is used.
- c. oxygen is produced.

6. Which of the two drinks is useful for your body? Give a reason for your choice.



Orange juice

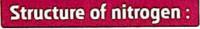


Orange soft drink

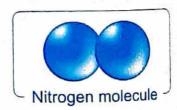
Nitrogen



- Nitrogen represents 78% of the volume of the atmospheric air, so it is the most abundant gas in the air.
- The atmospheric air is considered the main source of nitrogen.
- The scientist Daniel Rutherford had discovered nitrogen.



- Nitrogen is found in nature in the form of a gas.
- Nitrogen is an element whose molecule is referred to by the symbol (N₂) because its molecule is composed of two nitrogen atoms.



Daniel Rutherford

In this lesson, we are going to study:

- The existence of nitrogen.
- Properties of nitrogen.

abundant وافر existence

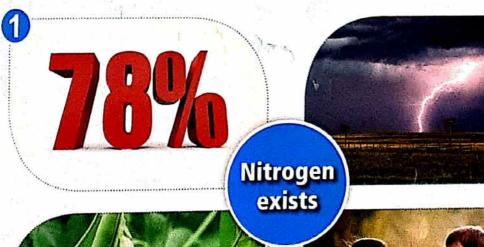
The existence of nitrogen:

In the atmospheric air:

Nitrogen represents **78%** of the volume of the atmospheric air, so the air is the main source of nitrogen.

In soil:

Nitrogen reacts with oxygen during lightning forming chemical compounds known as nitrogen oxides that reach soil during raining.





In all the living tissues :

Nitrogen forms protein substance that builds up the body of all living organisms.

In legumes:

Such as clover, peas and soybeans where, a specific type of bacteria (nodular bacteria) live on their roots and take the atmospheric nitrogen to form proteins.

soil lightning nodular bacteria تربة legumes البرق رباغنریه clover بنولیات soybeans برسيم peas فول صو سلة

Properties of nitrogen:

It scarcely (hardly) dissolves in water.

It is a colourless, tasteless and odorless gas.

It doesn't help in burning.

NOTE

Nitrogen gas is called "azote" which means lifeless. Because it doesn't help in burning.



Enrichment information

Some uses of nitrogen:

- 1. Nitrogen is recently used in filling car tires, because nitrogen is characterized by its relative constancy in volume when the temperature changes.
- 2. Nitrogen is used in making amonium nitrate and ammonia which are used in manufacturing soil fertilizers.
- 3. Nitrogen is used in small amounts to fill some types of lamps.
- 4. Nitrogen is used in the manufacturing of :
 - a. Gunpowder.
 - b. Stainless steel (it is a type of iron which doesn't make rust).



- * Worksheet 9
- * General exercise of the school book on Unit 3
- * Model exams on Unit 3 in the Notebook.

car tires	إطارات السيارة	soil fertilizers	مخصبات النرية	stainless steel	حديد صُلب
manufacturing	صناعة	constancy	ثبات	lifeless	عديم الحياة
relative	ئىبى	gunpowder	البارود		

Remember Lesson Three

- Nitrogen molecule consists of two nitrogen atoms and its symbol is (N₂).
- The scientist Daniel Rutherford had discovered nitrogen.
- Nitrogen represents 78% of the volume of the atmospheric air.
- Nitrogen reacts with oxygen during lightning forming chemical compounds known as nitrogen oxides that reach soil during raining.
- Nitrogen exists in legumes, such as clover, peas and soybeans where, a specific type of bacteria (nodular bacteria) live on their roots and take the atmospheric nitrogen to form proteins.
- Nitrogen forms protein substance that builds up the body of all living tissues.
- O Nitrogen is called azote which means lifeless as it doesn't help in burning.

• Properties of nitrogen :

- 1. It is a colourless, tasteless and odorless gas.
- 2. It scarcely (hardly) dissolves in water.
- 3. It doesn't help in burning.

Questions ?



on Lesson Three



Questions signed by \(\omega \) have been taken from the school book.

. C	hoose the correc	t answer:			
1.	Nitrogen mole	cule consists of .	nitrogen a	toms.	
	a. one		c. three	d. four	
2.	Nitrogen ga	s percentage is	of the air.	r e Traggia de la compa	
4	a. 21%			d.1%	à.
3.	The scientist w	vho discovered n	itrogen gas was .		
	a. Anders Celsi	us.	b. Joseph Pri	estley.	
	c. Daniel Ruth	erford.	d. Antaine La	voisier.	
4.	The main sour	ce of nitrogen is			
	a. air.	b. water.	c. carbon dio	xide. d. green plants.	
5.	Nitrogen oxide	s are formed by	combination of ni	trogen with	
	a. hydrogen.	b. carbon dioxi	de. c. oxygen.	d. argon.	
6.	Nitrogen oxide:	s are formed in th	e atmosphere du	ring which reach	
	soil with rain w	ater.			
	a. thunder	b. heat	c. lightning	d. wind	
7.	Mitrogen is	the most importa	nt part of		
	a. proteins.	b. carbohydrate	es. c. fats.	d. water.	
8.	Nitrogen is call	led "azote" which	means		
	a. life gas.		b. lifeless gas		
	c. water soluble	e gas.	d. water insol	uble gas.	
9.		operties of nitrog	en:		
	a. it burns.			tructure of carbohydrates.	
	c. enters the pr	rocess of breathir	ng. d. not help in	burning.	
. Pi	ut (🗸) in front of	the right statem	ents and (×) in fr	ont of the wrong	
		correct the wrong		one or the wrong	
1.	Nitrogen gas re	epresents 21% of	the volume of at	mospheric air. ()
2.		the most abunda		· ()
3.			position of all livin)
4.		the most importa	nt gas as it forms	carbohydrate	
	substances.			.()
	• 1				

			STATE OF THE SAME OF THE SAME OF
1	5.	Magnesium oxides reach soil with rain water.	()
	6.	The nodular bacteria fix oxygen of air in the roots of legun	ninous plants
		such as beans and clover.	()
	7.	Legumes such as clover benefit from the nitrogen in the a	ir. ()
	8.	Nitrogen gas helps in combustion process.	()
	9.	Nitrogen gas is also called azote which means lifeless.	()
1	122	Nitrogen gas is colourless, tasteless, odorless and dissolved.	es in
	10.	water easily.	()
-	. Co	rrect the underlined words :	
	1.	Nitrogen molecule consists of three nitrogen atoms.	()
	2.	Nitrogen represents 87% of the atmospheric air volume.	()
	3.	During lightning, nitrogen reacts with oxygen in the air formir	g carbon
		oxides that reach the soil during raining.	()
	4.	Legumes such as clover and peas benefit from oxygen in the	
		of proteins.	()
	5.	Oxygen contributes to the composition of all living tissues.	()
	6.	Legumes such as clover and peas form ammonia from the atmo	ospheric
		nitrogen.	()
	7.	The nodular bacteria fix oxygen in roots of leguminous plants.	. ()
	8.	Nitrogen gas is easily soluble in water.	()
	9.	Nitrogen is called azote which means life gas.	()
1			
		rite the scientific term of each of the following:	()
	1.	THO MOOL GETTING	()
	2.	it forms about 76% of the volume of damesphere	()
	3.	A gas that is called azote which means lifeless gas.	
	4.	Chemical substances formed in the atmosphere as a result of	()
		between oxygen and nitrogen during lightning.	
	5.	A kind of plants that produces proteins from the atmospheric	nitrogen
		by the help of a specific type of bacteria that live in its roots.	()
	6.	A Specific type of pacteria in a minorial	()
	7.	A gas that composes the protein substance that builds up our	bodies.
100		그래요 그 모든 말이 보는데 그리고 가는 하는 모든 가를 보니다.	()
- 1	200	그 속도시 마시 그렇게 되었다. 그 그러면 그림을 받는 것은 것은 점점 그림을 가냈다는 것이다.	- 1 - 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1

J		
I	, Co	mplete the following statements :
	1.	Nitrogen is an element that found in nature in state.
	2.	Nitrogen molecule consists ofnitrogen atoms and its symbol
		is
	3.	Nitrogen forms % of the volume of the atmosphere and contributes
		in the composition of living organisms'
	4.	is the main component of protein substances.
	5.	Oxygen reacts with nitrogen during lightning and produce
	6.	Legumes such as and soybeans produce from the
		atmospheric nitrogen.
	7.	Legumes form protein substance with the help of a certain type of
		that live in the
	8.	is the scientist who had discovered nitrogen.
	9.	Nitrogen gas does not help in
		Nitrogen gas is called azote, because it
	11.	Nitrogen gas dissolves in water.
•		그렇게 하는데, 살이 되었다. 그는 그 그는 그는 그는 그를 가고 맞았다면 하셨다.
1	D. Giv	reasons for the following:
	1.	The main source of nitrogen is the air.
	2.	Nitrogen is very important for legumes.
The same of	۷,	, with organic very imperior in regulation.
-	-17	
-	3.	Nitrogen contributes in the composition of all living tissues.
-		
1	4.	Nitrogen is very important in the human's life.
1		
and the same	5.	Nitrogen is called azote which means lifeless.
1		
7	MIL	at happens when?
-		점심하다 취하다 그들은 이번에 마다 그리고 들어가면 되었다면 하지만 아이들을 하는 사람들이 되었다면 하다면 하다면 가셨다면 하다. 그 경우
-	- 1	Nitrogen gas is not present in the atmospheric air.
Annual season		
		[20] 그 마이트 (1) : 10 : 10 : 10 : 10 : 10 : 10 : 10 :

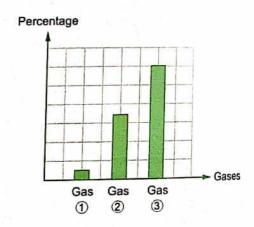


Thinking Skills Questions

1. The opposite diagram shows the percentages of oxygen, nitrogen and carbon dioxide in the atmospheric air.

Complete the following sentences:

- Oxygen is represented by gas number -----
- Carbon dioxide is represented
 by gas number
- Nitrogen gas is represented by gas number
- 4. Gas number 3 is called which means lifeless gas.



- 5. Dilute hydrochloric acid + Calcium carbonate produce Gas number Gas number
- 2. The following table shows some properties of some gases.

Gas (A)	Gas B	Gas ©
 It scarcely dissolves in water. It is a main component in all proteins. It is a lifeless gas. 	 It easily dissolves in water. It is heavier than air. It doesn't burn and doesn't help in burning. 	 It scarcely dissolves in water. It is heavier than air. It doesn't burn but it helps in burning.

Which of the following answers shows the correct name of each of the previous gases ?

- a. Gas (A) is oxygen, gas (B) is nitrogen and gas (C) is carbon dioxide.
- b. Gas (A) is carbon dioxide, gas (B) is nitrogen and gas (C) is oxygen.
- c. Gas (A) is nitrogen, gas (B) is carbon dioxide and gas (C) is oxygen.
- d. Gas (A) is nitrogen, gas (B) is oxygen and gas (C) is carbon dioxide.



Project On UNIT THREE



Explain the reasons in the following cases:

UNIT

Structure and Function

LESSONS OF THE UNIT:

- 1. Human nervous system.
- 2. Human locomotory system.



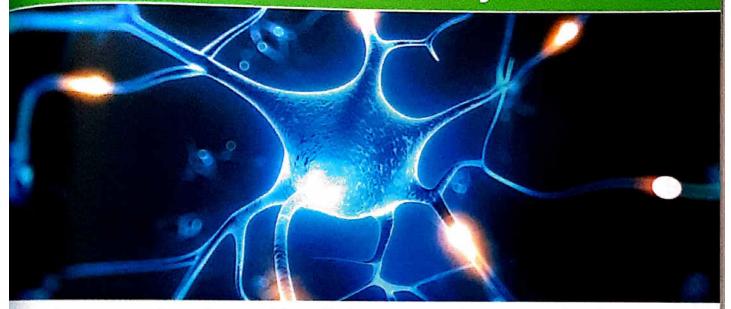
UNIT OBJECTIVES

By the end of this unit, you will be able to :

- Identify the structure and function of the human nervous system.
- · Identify the importance of the human nervous system and ways of maintaining it.
- · Explain the occurrence of reflex action.
- · Identify the structure and function of the human skeletal system.
- Explain the importance of joints for movement.



Human nervous system



Nervous system is considered the system that controls all the other systems inside your body.

Simply, the nervous system consists of the brain, the spinal cord and the nerves.

Nervous system:

It is a communication and controlling system that regulates all the vital operations of the human body.

It is the most important system inside your body, because :

- 1. It controls and regulates all the vital operations of the body as it receives information from the surrounding environment and from the body, then it interprets this information and makes the body responds to it.
- 2. It is responsible for knowing if things are:











Sweet or bitter

Rough or smooth

nervous system vital operations bitter

interpret عمليات حبوبة

communication الجهاز العصبي

smooth البيئة المعطة surrounding environment مرا

regulate الإتصال respond

3. It adjusts the responses that require emotions, so it makes you :





Sad or happy

Angry or calm

- 4. It oversees and regulates the multiple functions performed by the human body such as moving, feeding, digestion, breathing, thinking.
- The building unit of the nervous system is the nerve cell that is called "neuron".

Neuron (Nerve cell)

Neuron:

It is the building unit of the nervous system.

QUESTION ?

Write the scientific term:

- 1. The basic structure (building unit) of the nervous system.
- (.....)

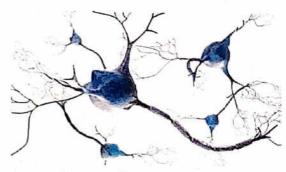
(.....)

2. The system that controls and regulates all the vital operations of your body.

When you examine a slide of a neuron by a microscope, you observe that:

The neuron (nerve cell) consists of two main parts which are :

- 1. The cell body.
- 2. The axon.



Nerve cells (under microscope)

adjust	يخبط	emotions
multiple functions	الوظائف المتعددة	nerve cell
axon	محور الخلية	oversee

مشاعر	building unit
الخلية العصبية	cell body
<u>ئە</u> نى :	

وحدة بنا . جسم الخلية

1 The cell body:

- It contains a nucleus, cytoplasm and a plasma membrane.
- There are some branches extending from the neuron's body called dendrites.

Function of dendrites:

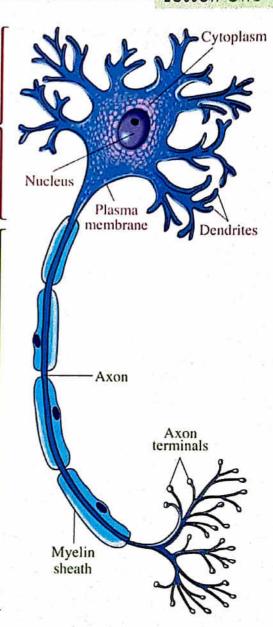
They are connected to the neighbouring neurons to form the synapse (synaptic areas).

2 The axon :

- It is a cylindrical axis covered with a fatty layer called myelin sheath.
- The axon ends with nerve endings called axon terminals.

Function of axon terminals:

They are connected to the muscles or form a synapse with the dendrites of other neurons.



QUESTION ?

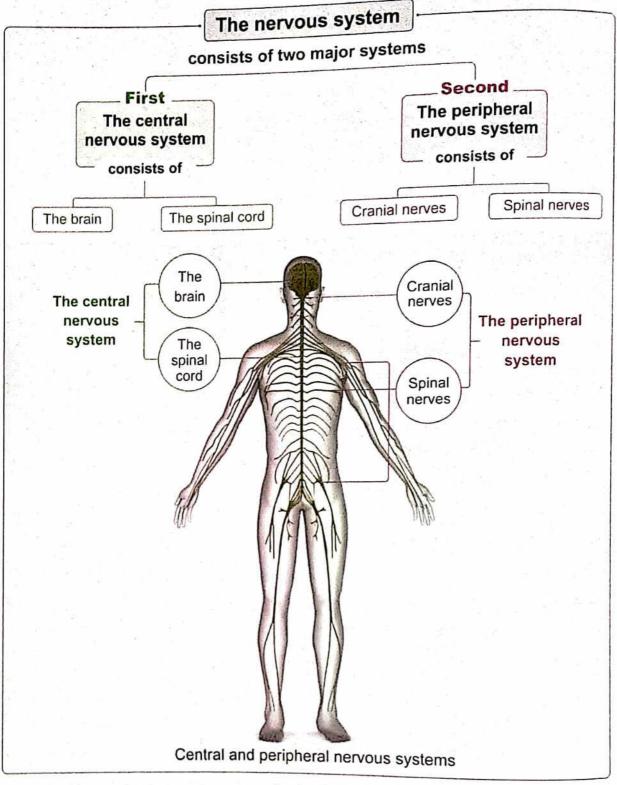
¥ Complete the following sentences :

- 1. The neuron consists of and
- 2. are branches that extend from the neuron's body and are connected to the neighbouring neurons.
- 3.is a cylindrical axis that covered with a fatty layer called

plasma membrane الخشاء البلازمي synapse الخشاء البلازمي neighbouring neurons الغشاء البلازمي synapse الغشاء البلازمي branches تفرعات تضجيرية synaptic areas مناطق التشابك العصبي مناطق التشابك العصبي axon terminals غلاف ميليني myelin sheath خلاف ميليني

المعاصر علوم لغات (شرح) / ۱ب/تيرم ١ (م: ١٨)

Structure of the nervous system



central nervous system

spinal cord

peripheral nervous system الجهاز العصبى المركزي cranial nerves

spinal nerves الحبل الشوكى

الجهاز العصبى الطرقى أعصاب مُخية أعصاب شوكية

FIRST The central nervous system



It is composed of:

1. The brain.

2. The spinal cord.



The brain:

The brain:

It is a nerve block containing millions of nerve cells and it is the main control center in the human body.

• Its location :

The brain is located inside a bony box called skull to protect it.



It directs and coordinates all the processes, ideas, behaviours and emotions.

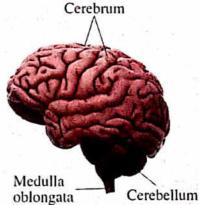




• Its structure :

The brain of the human or some animals like sheep consists of three main parts which are :

- A. Cerebrum (two cerebral hemispheres).
- B. Cerebellum.
- C. Medulla oblongata.





The brain is the main control center in the human body.

Because it directs and coordinates all the processes, ideas, behaviours and emotions.

alia control center مركز التحكُم الرئيسى bony box كتلة عصبة skull كتلة عصبة coordinate الجُمجية cordinate المُحيم cerebellum المُحيم medulla oblongata المُحيم النخاع المستطيل decrebellum



To examine the structure of the sheep's brain.



Materials:

Fresh sheep's brain - dissecting tools (forceps - dissecting needle - scalpel).

Steps:

 Examine the sheep's brain and identify its main parts.

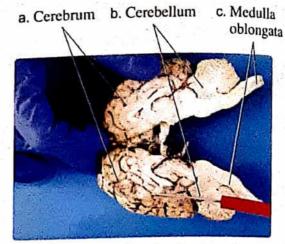
Observation:

The sheep's brain consists of:

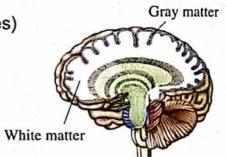
- a. Cerebrum.
- b. Cerebellum.
- c. Medulla oblongata.
- Make a longitudinal section through the cerebrum (the two cerebral hemispheres) using the scalpel.
- Notice the difference in the colour inside and outside the brain.

Observation:

The outer part of the two hemispheres is a gray matter, while the inner part is a white matter.



Sheep's brain (longitudinal section)



Longitudinal section of cerebrum

(Conclusions:

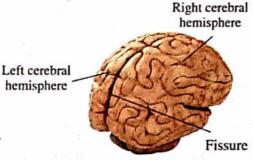
- The structure of sheep's brain is similar to the structure of the human's brain.
- 2. The outer part of the two hemispheres (cerebrum) is the gray matter, but the inner part is the white matter.

dissecting tools	scalpel أدرات تشريح	مثرط
longitudinal section	forceps قطاع طولی	ملقاط

Now, we will study the components of the human's brain.

Cerebrum (the two cerebral hemispheres):

- It is the largest part of the brain.
- It is divided into two halves (right and left cerebral hemispheres) separated by a fissure and attached to each other through nerve fibers which are responsible for connection between them.

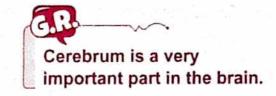


Brain

- The outer surface of the two cerebral hemispheres is called cerebral cortex and it is a gray matter, but the inner surface is called the white matter.
- The two cerebral hemispheres have many convolutions and folds on their surface.

Their functions:

1. They control the voluntary movements of the body such as walking, sitting and running in races.



- 2. They receive nerve impulses from five sense organs (eyes, ears, nose, tongue and skin) and send the suitable responses to these impulses.
- 3. They contain the centers of thinking and memory (concentration).

Cerebellum:

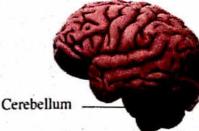
• Its location :

It lies at the back area of the brain below the two cerebral hemispheres.



It maintains the balance of the body during the movement.





cerebral	cortex
voluntai	ry movements
center?	of thinking
fissure	

	and the second second second
الغشرة المغبة	convolutions
حركات إرادية	races
مراكز التفكير	memory
إنفلاق/ حَن	concentration

مبب	Totas
السياتات	sense organs
الذاكرة	maintain
التركيز	nerve impulses

. No folde

لحس	1	. ۱	-	1
-				100
200			حاف	
		-	30	rie.





Medulla oblongata :



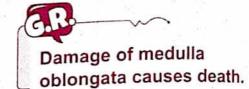
• Its location :

- It lies in front of the cerebellum.
- It connects the brain with the spinal cord.

• Its functions:

It is responsible for regulating the involuntary processes of the body as:

- Regulating heartbeats.
- 2. Regulating the movement of the respiratory system parts during breathing.



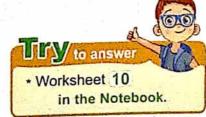
Medulla

oblongata

3. Regulating the movements and functions of the digestive system.

Do You Know?

- In the adult human, brain weighs about 1.5 kg.
- Some people believe that if the human brain gets bigger, the intelligence will increase, but this is not true, where all adults have equal brain sizes.



The spinal cord:

It is a cylindrical cord from which the spinal nerves extend.

• Its location :

It extends in a channel within a series of vertebrae in the backbone (the vertebral column) to protect the spinal cord.

O Its structure :

It consists of:

- Internal gray matter that has the shape of letter "H".
- External white matter.

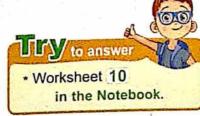
involuntary intelligence heartbeats لا إرادية vertebrae الذكاء

vertebral column نبضات القلم

Spinal nerve

Vertebra

العمود الفقري



Spinal cord

White matter

Gray matter



o Its functions:

- It delivers the nerve messages from the body organs to the brain and vice versa.
- It is responsible for the reflexes (a group of reflex actions) such as the withdrawal of the hand quickly when touching a hot surface.



Activity 2 To examine a cross-section of the spinal cord.

Step:

Examine a slide of cross-section of the spinal cord by a microscope.

Observation:

There is an internal gray matter that has the shape of letter "H" and surrounded by an external white matter.



Cross-section of spinal cord (a sample with dye under microscope)

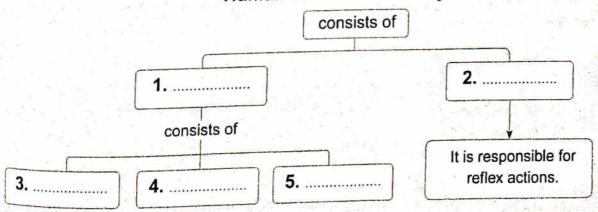
Ocnclusions:

- The internal part of the spinal cord is the gray matter, but the external part is the white matter.
- The structure of the spinal cord is opposite to that of the two cerebral hemispheres.

QUESTION ?

¥ Complete the following chart :

Human central nervous system



delivers ألفعال المنعكسة (reflexes(reflexactions يُسلم delivers والأفعال المنعكسة (reflexes (reflex actions والمائل العصبية nerve messages سحب delivers

SECOND The peripheral nervous system

The peripheral nervous system:

It is the nerves which emerge from the central nervous system (the brain and the spinal cord).

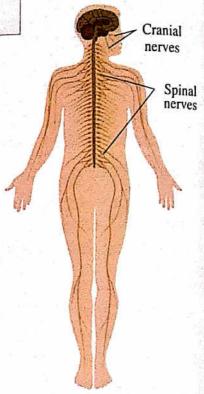
It consists of :

- Cranial nerves that are 12 pairs of nerves emerge from the brain.
- Spinal nerves that are 31 pairs of nerves emerge from the spinal cord.

• Its function :

It delivers the sensory information and the kinetic responses between the central nervous system and all parts of the body.

Now, let's study what is meant by reflex action and how does it occur.



The peripheral nervous system

The reflex action:

When your body is subjected to external stimuli such as strong light, heat or smell etc., your body makes an involuntary response that is called "reflex action."

Reflex action:

It is the automatic (spontaneous) response of the body to different stimuli.

* The responsible organ for reflexes is the spinal cord.

The state of the s		15 Carlot and the second second	THE STREET	Series of the se	
sensory information	معلومات حسية	kinetic responses	إستجابات حركية	emerge	تخرج من
external stimuli	مؤثرات خارجية	spontaneous		subjected to	معرضة ل

Examples of reflex actions:

Moving your hand away quickly when you touch a plant with sharp thorns or touching a hot surface.



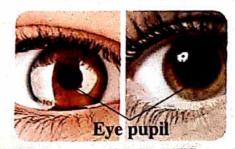
2

Blinking when something gets close to the eye.



3

Decreasing the size of the eye pupil on intense light and increasing its size on dim light.



Making a slight kick when hitting the knee with a solid object.



Secreting saliva on seeing or smelling good food.



blinking
eye pupil
slight kick
sharp thorns

intense light غمض العين dim light إنسان العين (حدقة العين) hitting ركلة تدم خفيفة secreting saliva أشواك حادة knee الضرء الشديد get close الضر الخانت يضرب إفراز اللعاب

145 المعاصر علوم لغات (شرح) / ١ب/نيرم ١ (م : ١٩)

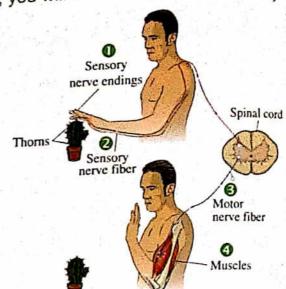


The following example explains the stages of the reflex action.

When you touch a plant with sharp thorns, you will withdraw your hand quickly.

Stages of reflex action are:

- The thorns of the plant affect the sensory nerve endings in the fingers producing nerve impulses.
- The nerve impulses are transmitted to the spinal cord through a sensory nerve fiber.



- Some of nerve impulses produced by the spinal cord are transmitted through a motor nerve fiber to the arm muscles (without the brain's intervention).
- 4. So, muscles contract and the arm is withdrew away from the thorns.
- The other nerve impulses produced by the spinal cord are transmitted to the sensory centers in the brain which lead to the true sense of pain.

Generally, from all the previous explanation, we can conclude the importance of the human nervous system as follows:

The importance of the human nervous system :

- 1. It carries nerve messages (impulses) from one area of the body to another.
- 2. It regulates and coordinates all the vital processes within the body.
- It receives the external stimuli that surround the human being through the sensory organs, then identifies and interprets them.

motor nerve fiber اللِغة العصبية الحركية sensory centers مراكز الحِس sensory centers اللِغة العصبية الحركية intervention nerve endings النهايات العصبية الحسية الح

تدخل

Ways of maintaining the human nervous system

1

Reducing the intake (drinking) of the stimulating substances such as tea, coffee and others.

Because they:

a. affect sleeping periods. b. affect heartbeats.

c. lead to nervous tension.



2

Staying away from tranquilizers and stimulants.



3

Keeping away from sitting for a long period in front of computer and television.

To avoid the exhausting of sense organs.



4

Avoiding the extreme exciting situations.



5

Staying away from the sources of pollution (as noisy places and smoke).

Because they passively affect the nervous system.



intake

stimulants

exciting situations

nervous tension تناول

exhausting الجبوب المُشِطة

passively affect مراقف الإنفعال

tranquilizers ترُتر عصبی

extreme إرهاق

staying away تؤثر سلبيًا على

الحبوب المهدنية

شديد الابتعاد

6

Staying away from addiction.

Because it passively affects the nervous, system as:

- Retardation of memory and learning.
- b. Nervous tension.
- c. Sluggishness.
- d. Loss time sensation. e. Sleepless.



7

Doing physical exercises.



8

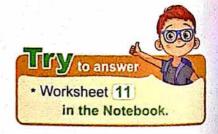
Giving the body a sufficient period of rest especially during sleep.





- You must reduce the intake of the stimulating substances as tea and coffee.
- Avoiding extreme exciting situations.

To keep the nervous system healthy.



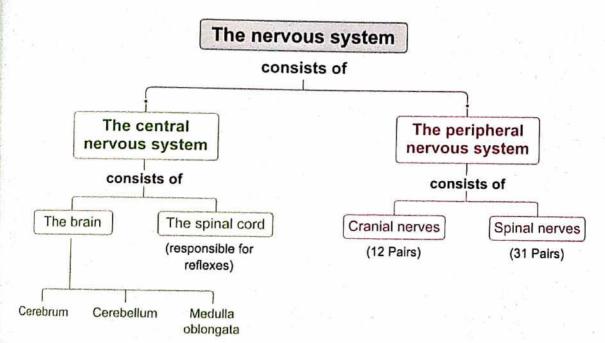
addiction sluggishness sufficient retardation الإدمان sleepless الكسل

loss time sensation کانی

تأخر الأرق فقدان الاحساس بالوقت

Remember Lesson One





Comparison between central nervous system and peripheral nervous system:

Points of comparison	Central nervous system	Peripheral nervous system
Structure :	It consists of the brain and the spinal cord.	It consists of 12 pairs of cranial nerves and 31 pairs of spinal nerves.
	 It directs and coordinates all the processes, ideas, behaviours and emotions. It delivers the nerve messages from the body organs to the brain and vice versa. It is responsible for the reflexes. 	It delivers the sensory information and the kinetic responses between the central nervous system and all parts of the body.

Questions ?



on Lesson One



Questions signed by A have been taken from the school book.

Ch	oose the correct answer:	
1.	Thesystem interprets the expends to them.	
	a. digestive b, respiratory	c. nervous d. circulatory
2.	The building unit of the nervous sys	stem is the
	a. neuron. b. axon.	c. synapse. d. myelin sheath,
3.	The branches extending from the ner	ve cell body are known as
	a. axons. b. synapses.	c. dendrites. d. neurons.
4.	The axon terminals form av	vith other neurons.
	a. gray matter b. nerve	c. synapse d. myelin sheath
5.	The axon is covered with a fatty su	bstance called
	a. gray matter. b. synapse.	
6.	One of the components of nerve	e cell body is the presence of
	a. blood vessels.	b. myelin sheath.
	c. dendrites.	d. synapse.
7.	Myelin sheath surrounds the	
	a. nerve cell axon.	b. cerebellum.
	c. spinal cord.	d. cerebrum.
8.	The central nervous system consist	s of
		b. skull and spinal cord.
	c. brain and spinal cord.	
9.	All the following are from the comp except	onents of central nervous system
	a. spinal nerves.	 b. two cerebral hemisphere.
	c. spinal cord.	d. cerebellum.
10	. All the following are from the compo	onents of the brain except
	a. cerebrum.	b. medulla oblongata.
	c. spinal nerves.	d. cerebellum.
11	. The is responsible for the p	rotection of the brain.
	a. vertebral column	b. skull
	c. ribcage	d. stomach

b vertebral column.

d. nerve cell.

a. skull.

c. ribcage.

23.	The organ which is	s responsible for t	he transfer of ner	we messages from
ă,	different body part	s to the brain and	b. vertebral colu	
	a. cerebellum.		D. Vertobie.	
	c. medulla oblonga	ata.	d. spinal cord.	
24.	a controls	reflex actions.		d Proin
	- 0-!!	h Caraballum	c. Cerebrum	d. Brain
25.	The gray matter	r in the spinal core	d appears in the s	hape of letter d. Y
	~ LI	h E	C. A	
26.	The position of the	gray and the whi	te matter in the sp	pinal cord is
0.	to that in the hemis	spheres.		
	a. similar	b. opposite	c. perpendicular	d. vertical
27.	consists of	43 pairs of nerve	S	
	a. Cerebrum		b. Peripheral ner	vous system
	c. Central nervous	system	d. Spinal cord	
28.	The number of o	ranial nerves is	pairs of nerv	es.
	a. 31	b. 21	c. 12	d. 43
29.	There arep	airs of spinal ner	ves.	
	a. 31	b. 12	c. 43	d. 32
30.	The automatic resp	onse of the body	to different stimu	li is known as
	the			
	a. axon.	b. dendrites.	c. reflex action.	d. myelin sheath.
31.	All the following are	e examples for the	e reflex action exc	cept
	a. withdrawing har		The state of the s	
	b. secreting saliva	on seeing or sme	elling good food.	
	c. inhalation and e	xhalation during s	sleeping.	
	d. decreasing the	size of the eye pu	pil on intense ligh	t.
32.	The organ that is re	esponsible for blir	nking when somet	thing gets close to
	the eye is called			
	a. spinal cord.	b. cerebellum.	c. axon.	d. neuron.
33.	All the following are	e ways to maintai	n the health of the	nervous system
	except			
	a. avoiding exciting		b. staying away f	rom pollution.
	c. doing physical e		d. smoking cigare	
34.	Addiction causes a		d effects except.	
	a. nervous tension		b. sleepless.	
	c. sluggishness.		d. reflex action.	

2. Choose from column (B) what suits it in column (A):

(A)	(B)	
1. Cranial nerves	a. responsible for involuntary processes.	2.27
2. Spinal nerves	b. responsible for voluntary processes.	
3. Medulla oblongata	c. responsible for reflex actions.	
4. Spinal cord	d. are 31 pairs of nerves.	
5. Cerebellum	e. are 12 pairs of nerves.	
	f. is found inside a bony case called skull.	
6. The brain	g. keeps the balance of the human body	
7. The two cerebral	during movement.	
hemispheres	h. is the building unit of nervous system.	
1 2	3 4	
5 6		
4. The branches extend from	f cell body and blood vessels. In the neuron's cell body are called axons. It is a result of connection of nerve cells' axons.	((
6. The axon of the nerve ce	Il is surrounded by a gelatinous layer.	(
7. The central nervous system	m consists of the brain and the spinal cord.	(
	in control center in your body.	(
	ox, where the brain is protected.	(
10. The brain directs and con	ordinates all the processes, ideas and emotion	ons
- AND DIGHT GHECKS BITG COO		(
11. The brain consists of core	ebrum, cerebellum and medulla oblongata.	(
12. The outer part of the brain		(
	neres are the largest part of the brain.	(
	nemispheres is called cerebellum.	(
	. للعلمة علوه لغلت (شرح) أناب إن م ١٠٠ ع	15

1		
	5. One of the most important functions of the muscular system	is controlling
11	the voluntary movements.	(
1	3. The centers of thinking and memory lie in the spinal cord.	()
, 1	7. The location of cerebellum is at the back of the brain over the	∌ two
10	cerebral hemispheres.	()
10	3. The cerebellum is responsible for keeping the balance of the	human body
4,	during its movement.	()
18	9. The location of medulla oblongata is below cerebellum and jo	ins the brain
	with the spinal cord.	()
). The spinal cord is responsible for regulating the involuntary pro	ocesses. ()
	. Spinal cord controls the heartbeats.	()
22	The spinal cord is responsible for reflex action in human body	· ()
23	The spinal cord consists of an internal substance that is white	matter and
	it appears in the shape of letter "H".	()
	The peripheral nervous system consists of 43 pairs of nerves.	
	 There are 12 pairs of spinal nerves and 31 pairs of cranial nerv 	
26	The automatic response of the body to the external stimuli is k	nown as
٠.	the reflex action.	()
2	Secreting saliva on seeing or smelling good food is a reflex a	ction. ()
. W	rite the scientific term of each of the following :	
1.	The system which is responsible for the communication and c	oordination
	between human body systems.	()
2.	A system that consists of the brain, the spinal cord and the nerves	. ()
3.	The system which receives information from the environment	and makes
	the body responds to it.	()
4.	The basic structure unit of the nervous system.	()
5.	The branches that extend from the neuron body.	()
6.	The cylindrical axis in the neuron that is covered with a fatty la	yer.
		()
7.	The fatty layer that covers the axon.	()
8.	It is the net that is formed by the connection of dendrites with	
	neighbouring neurons.	()

	esson One
9. The system that consists of the brain and the spinal cord.	()
	()
11. The bony box, in which the brain is located.	· (········)
12. The part of the brain which is divided into two hemispheres.	
VI Data in the Secretary of the Secretar	()
14. Part of the brain that contains the centers of thinking and mer	, ,
	()
15. The structure that receives the nerve impulses from the sense	e organs.
	()
16. A part of the brain which is responsible for keeping the balance	of
the human body.	()
17. A part of the brain that lies at the back area of the brain below	the two
hemispheres.	()
18. Linked to the brain through the spinal cord and is responsi	ble for
involuntary actions.	()
19. A part of the brain that regulates the heartbeats.	()
20. A part of the nervous system that responsible for the transfer	of nervous
messages from different parts of the body to the brain and vice	e versa.
	()
21. 🛄 It consists of a gray matter in the form of "H" letter surroun	ded by
the white matter.	()
22. The internal H-shaped part of the spinal cord.	()
23. The system that consists of 43 pairs of nerves.	
24. 12 pairs of nerves that extend from the brain.	
25. 31 pairs of nerves that extend from the spinal cord.	
26. An involuntary response made by the nervous system when the	ne body is
Subjected to an external stimulus.	()
7. Automatic response of the body to different stimuli.	()
Part of the nervous system responsible for reflex actions.	()
9. Bad behaviour that causes sluggishness and retardation of m	emory and
learning learning that causes sluggishness and retardation of the	onio, y ana

-	5. Co	mplete the following statements :
	1.	is the system that controls all the vital operations of the body.
	2.	
	3.	The neuron consists of two main parts which are and and
-	4.	The cell body contains and a plasma membrane,
		while there are extending from it.
	5.	The dendrites are connected to neighbouring neurons composing the
	6.	The axon of nerve cell is surrounded by sheath.
	7.	At the axon endings, there are that are connected to the muscles
		or form with other neurons.
	8.	The nervous system consists of two main systems which areand
	9.	The central nervous system consists of and
	10.	The main control center in your body is and it is found inside
		a bony case called
	11.	The brain is a nerve block containing millions of
	12.	The brain consists of and and
	13.	The outer part of the brain is matter , while the inner part is matter.
	14.	is the largest part of the brain and it is divided into two halves called
	15.	The function of is the protection of the brain.
	16.	The two cerebral hemispheres control the movements such as
TO THE PERSON NAMED IN	17.	receive the nerve impulses from sense organs and send
	1.5	a suitable responses.
-	18.	The cerebrum contains the centers of and
-	19.	Thelies below the two cerebral hemispheres.
	20.	The maintains the balance of the body during the movement.
	21.	The brain and the spinal cord are connected by the
1	22.	The structure that lies in front of the cerebellum is called
		Theis responsible for regulating the involuntary processes of the body such as heartbeats and

	24.	The spinal cord extends inside a channel within the
	25.	The delivers the nerve messages from the body organs to
		the brain and vice versa.
	26.	controls the reflex actions (reflexes).
	27.	The outer part of the two hemispheres is matter, while the outer
		part of the spinal cord is matter.
	28.	The gray matter in the spinal cord has the shape of and it is
		surrounded with
	29.	The nerves that emerge from the brain and the spinal cord represent
	30.	The peripheral nervous system consists of and nerves.
	31.	The number of cranial nerves is and the number of spinal nerves
		is
	32.	nervous system delivers the sensory information and the kinetic
	20	responses between and all the body parts.
	33 .	The is the involuntary response that made by the nervous system
	34	when the body is subjected to an external stimulus.
	J4.	is responsible for the reflex actions, while is responsible for
	35	regulating the movements and functions of the digestive system. The withdrawal of your hand away from the plant thorns is called
	25.00	The withdrawal of your hand away from the plant thorns is called Blinking when something gets close to the eye is example of
		The over intake of tea and coffee causes and
		It is preferable to stay away from and stimulants to maintain
		the human nervous system.
1	C:	그 그는 이번 그를 보고 있는 뒤에 하는 그는 말을 하는 것이 되는 것이라고 있는 바다를 하고 있는 바다를 하고 있다.
١		re reasons for the following :
	1.	Dendrites extend from the neuron's body.
	2.	The
	۷.	The axon ends with nerve endings.
	3.	Broin is the section at all sections in the human body
	٠.	Brain is the main control center in the human body.
	4.	The corobrum halps you to win in races
	inci	The cerebrum helps you to win in races.
	5.	Cerebrum is a very important part of the brain.
		- Crostain is a very important part of the brain.

6	. Cerebellum has a great importance during the movement of the body.
7.	The medulla oblongata helps in digestion.
8.	The medulla oblongata keeps you alive during sleeping.
9.	Damage of the medulla oblongata causes death.
10	. Description is loctated inside the skull and the spinal cord extends through the inside of the backbone.
11.	Withdrawal of the hand quickly when it touches a hot surface.
12.	. It is important to prevent exhausting the sensory organs.
13.	You must stay away from the sources of pollution.
14.	You must reduce the intake of the stimulating substances such as tea and coffee.
15.	You must sleep for sufficient periods of time.
16.	It is important not to take sleeping pills without the doctor's prescription.
17.	Addiction passively affects the nervous system.
	The nervous system has a special importance in the human body.

7		hat happens when? The absence of dendrites and axon terminals.
1	2.	The cerebellum is shocked hardly.
-	3.	Damage of medulla oblongata.
	4.	☐ Your finger gets pricked by the plant thorns.
1	5.	Approaching something to the eye.
	6.	The body does not take a sufficient period of rest.
The second second	7.	Sitting for long times in front of the computer.
	8.	Continuous exposure to contaminated air by the factories' smoke.
	9.	The over intake of stimulants such as tea and coffee.
	10.	Human is exposed to noise constantly.
	11.	Taking drugs.
8		ntion the importance of : The neuron.
	2. [Dendrites.
	3.	Γhe brain.
-	4. m	Skull.
		particles contributed (1997) 1997 (1997)

	Cerebrum (the two hemispheres).
6.	□ Cerebellum.
7.	Medulla oblongata.
8.	□ Spinal cord.
9.	The peripheral nervous system.
10.	The nervous system.
1.	nat is meant by each of the following ?
	The nervous system.
2.	The nervous system.
	The nervous system.
2.	The nervous system. Neuron.
2.	The nervous system. Neuron. The brain.

Locate each of the following parts in the 1. Dendrites.	numan body :
2. Axon terminals.	
3. The brain.	
4. The two cerebral hemispheres.	
5. The cerebral cortex.	
6.	
7. 🚇 Medulla oblongata.	
8. 🚇 Spinal cord.	
9. 🚇 The H-shaped gray matter.	
3. Cranial nerves and spinal nerves.	
······································	

	Central nervous system and peripheral nervous system.
11	2. Observe the opposite figure, then complete :
	1. This figure represents
11	3. Look at the opposite figure, then answer the following questions :
	1. This figure indicates the structure of
	3. Write the labels. 1
(1	4. Look at the opposite figure, then answer the following questions: 1. Label the figure:
	①
	2. What is the function of part ②?
1	5. Mention five different ways of maintaining the human nervous system.

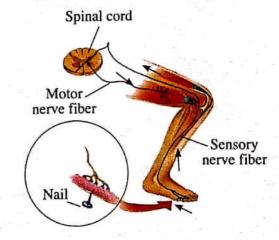


Thinking Skills Questions

- The drunk person (affected by alcohol) loses :
 - First, his ability to talk.
 - Second, his ability to walk in straight line.
 - Third, his ability to breathe normally.
 So, the right arrangement of alcohol effect on the parts of the central nervous system is:
 - a. medulla oblongata cerebellum cerebrum.
 - b. cerebrum cerebellum medulla oblongata.
 - c. cerebellum medulla oblongata cerebrum.
 - d. cerebellum cerebrum medulla oblongata.
- 2. The opposite figure shows a case of reflex action to a person stepping his foot on an iron nail.

Rearrange the following statements in the correct order to show the stages of the reflex action (starting with statement (b)):

- a. Some of nerve impulses transmit in a motor nerve fiber from the spinal cord to the muscles of the foot.
- b. Nerve impulses are generated in the sensory nerve endings of the cells that exist in the foot.
- c. The muscles contract to move the foot away from danger.



- d. Other nerve impulses are transmitted from the spinal cord to the sensory centers in the brain causing the feeling of pain.
- e. The nerve impulses transmit in a sensory nerve fiber to the spinal cord.



3. The following table explains three parts of the nervous system.

Part (1)	Part ②	Part ③
- It connects the brain with the spinal cord.	- Its outer surface is called cerebral cortex.	- It extends in a channel within a series of vertebrae in the backbone.
- It regulates the involuntary processes of the human body.	It contains the centers of thinking and memory.	- It controls the reflex action of the human body.

Which of the following answers shows the correct name of each of the previous parts?

- a. Part 1 is spinal cord, part 2 is medulla oblongata and part 3 is cerebrum.
- b. Part 1 is cerebrum, part 2 is medulla oblongata and part 3 is spinal cord.
- c. Part 1 is medulla oblongata, part 2 is cerebrum and part 3 is spinal cord.
- d. Part 1 is medulla oblongata, part 2 is spinal cord and part 3 is cerebrum.





يمكنك الاستمتاع بشرح الدروس الأتية بطريقة مجسمة بتقنية "Augmented Reality" على هاتفك الذكى أو جهازك اللوحى :



Human Nervous System:

"El-Moasser The Nervous System 6-Prim"





Human Locomotory System:

"El-Moasser The Locomotory System 6-Prim"





وذلك من خلال



Human locomotory system



O Movement is one of the characteristics that distinguish living organisms from non-living things and it occurs with participation and integration of skeletal, muscular and nervous systems.

O Movement helps human to move from one place to another seeking benefit or away from harm.

Movement:

It is the ability of the organism to change its position from one place to another.

Structure of human locomotory system

The movement of our bodies depends on muscles and bones together.

The locomotory system

consists of two major systems The muscular system





locomotory system integration seeking benefit

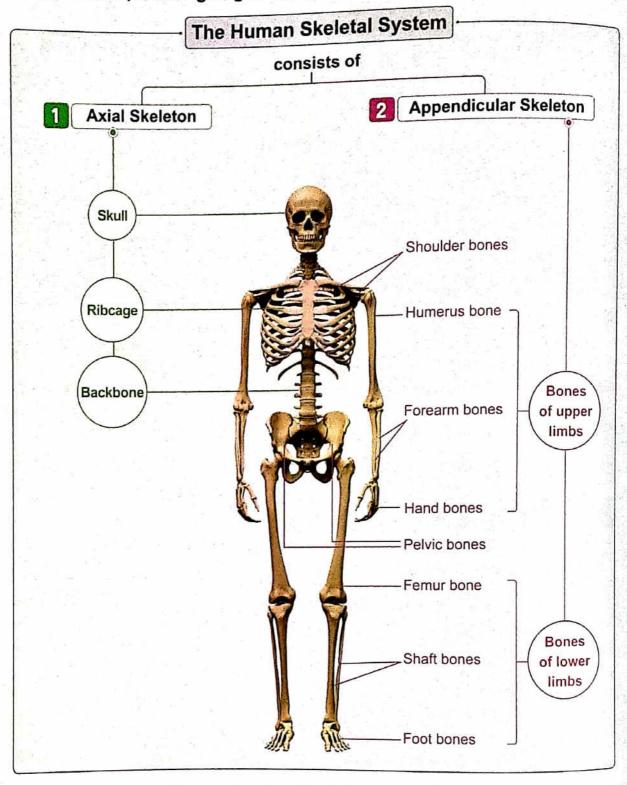
البحث عن فائدة

skeletal system الجهاز الحركي participation تكامل

muscular system الجهاز الهبكلي ability مشاركة

الجهاز العضلي

In this lesson, we are going to study the structure of the skeletal system.



axial skeleton backbone shoulder bones shaft appendicular skeleton الهبكل المحررى ribcage العمود الفترى humerus bone عظام الكتف pelvic bones skull الهيكل الطرفى limb القفص الصدرى forearm عظمه العضد femur الجمجمة طرف الساعد الفذا

The axial skeleton:

The axial skeleton consists of:

- a. The skull.
- b. The backbone.
- c. The ribcage.

a. The skull:

Its structure:

It is a bony box that contains cavities for eyes, ears and nose.

Its function:

It protects the brain.



The skull

b. The backbone (vertebral column):

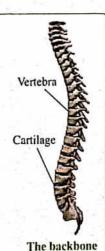
It represents the axis of the skeleton.

Its structure:

- · It consists of 33 vertebrae.
- It contains cartilages between vertebrae To prevent their friction during motion.

Its functions:

- 1. It allows the body to bend in different directions.
- 2. It protects the spinal cord inside.



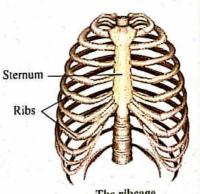
C. The ribcage:

Its structure:

- · It consists of 12 pairs of ribs (or 24 ribs).
- The first 10 pairs are connected to the sternum (breast bone) anteriorly.

Its functions :

- 1. It protects the lungs and the heart.
- 2. It helps in the inhalation and exhalation processes (breathing).



The ribcage

vertebrae anteriorly cavities

cartilages فقرات friction اما sternum

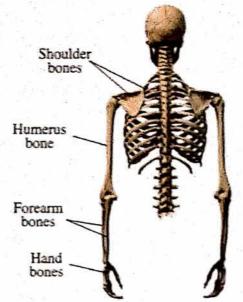
ribs غضاريف bend احتكاك

2 The appendicular skeleton :

The appendicular skeleton consists of :

Bones of upper limbs :

They are connected to shoulder bones.



Structure:

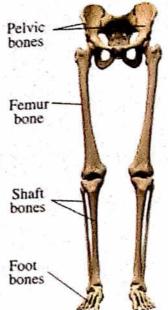
Each upper limb consists of humerus bone, forearm bones and hand bones.

Function:

Allow eating, drinking, writing and holding things.

Bones of lower limbs :

They are connected to pelvic bones.



Structure:

Each lower limb consists of femur bone, shaft bones and foot bones.

Function:

Allow walking, running, standing and carrying the rest of the body.

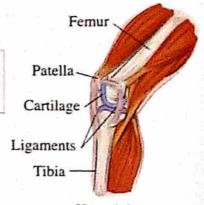
Joints and their significance to movement

The joint:

It is the location at which bones meet each other.

The function of joints:

They allow the movement between bones.



Knee joint

الأربطة ligaments مناصل joints الركبة significance مرضع

Types of joints

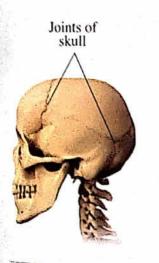
There are three types of joints which are:

1. Immovable joints

They don't allow any movement.

Examples:

The joints between the bones of skull.

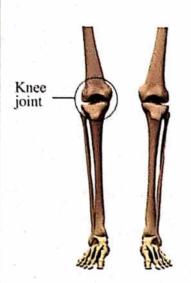


2. Slightly movable joints

They allow movement in one direction only.

Examples:

Knee and elbow joints.

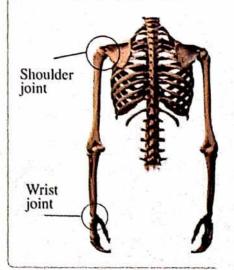


3. Freely movable joints

They allow movement in all directions.

Examples:

Shoulder, wrist, ankle and thigh (hip) joints.





- * Worksheet 12
- General exercise of the school book on Unit 4
- Model exams on Unit 4
 In the Notebook.

immovable elbow

slightly غير متحرك wrist الكرع

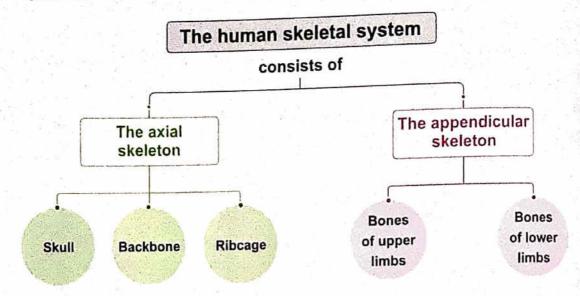
movable خنبف thigh/hip الرسغ متحرك الفخذ

المعاصر علوم لغات (شرح) / ٦ب / تبرم ١ (م : ٢٢)

Remember Lesson Two



 The human locomotory system consists of skeletal system and muscular system.



- Skull is a bony box that protects the brain.
- Backbone consists of 33 vertebrae which allows the body to bend in different directions and protects the spinal cord.
- Ribcage consists of 12 pairs of ribs which protects the lungs and the heart and helps in the inhalation and exhalation processes.
- Bones of upper limbs are humerus bone, forearm bones and hand bones.
- Bones of lower limbs are femur bone, shaft bones and foot bones.
- Immovable joints don't allow any movement, slight movable joints allow movement in one direction only, while freely movable joints allow movement in all directions.

Questions



on Lesson Two



Questions signed by A have been taken from the school book.



, (hoose the correct	aliswei .		
1.	is the ab	oility of the organis	m to change its po	osition from a place to
	another.			
		b. Movement		
2.	All the following	systems are resp	onsible for the mo	vement of the human
	body except the	e system.		
	a. nervous	b. skeletal	c. muscular	d. urinary
3.	All the following except	are from the cons	stituents of the hur	nan skeletal system
	a. joints.	b. backbone.	c. spinal cord.	d. the ribcage.
4.	The axial skelet	on consists of all t	he following excep	ot
	a. the skull.		b. the vertebral	column.
	c. the limbs bon	es.	d. the ribcage.	
5.	Which of the foll	lowing bones is re	lated to the axial s	keleton?
	a. Humerus.	b. Femur.	c. Forearm.	d. Vertebrae.
6.	The skull function	n is the protection	of the	
i A	a. lungs.	b. brain.	c. heart.	d. backbone.
7.	The human back	bone consists of	vertebrae.	
	a. 13	b. 23	c. 43	d. 33
8.	Backbone protec	cts the		
	a. spinal cord.		c. eyes.	d. heart.
9.	The ribcage in m	an consists of	pairs of ribs.	
	a. 11	b. 12	c. 13	d. 14
10.	The human ribca	ge protects the		
	a. heart only.	b. lungs only.		d. heart and lungs.

11. The	human ribcag	e helps in	process.	
a. c	igestion		b. sensation	
	reathing		d. absorption	
12. The	first 10 pairs o	of ribs are connec	ted to the	bone.
		b. sternum		d. shaft
13. The	bones of uppe	er limb are connec	cted to the	bones.
		b. sternum	c. humerus	d. femur
14. Hu	merus bone bel	ongs to the bone	s of	
a. ι	ipper limbs.	b. lower limbs.	c. axial skeleton.	d. skull.
		allow eatin		
	ower limbs		c. upper limbs	d. joints
16. Fei	mur bone is atta	ached tob	ones.	
a. s	shoulder	b. pelvic	c. ribcage	d. humerus
17. 🕮	The joint is the	location of meeting	ng of	
	wo bones.		b. a muscle with	a bone.
c. t	wo muscles.		d. two cartilages	
18. 🕮	Skull joints are			
a. i	mmovable.		b. slightly movab	ole.
	ree movable.		d. widely movab	
19. Th	e joint which all	ows the movemen	nt in one direction	only is
a.	mmovable.		b. freely movable	е.
C. \	widely movable	• [] [d. slightly movat	ole.
20. Fr	om the example	es of freely movab	le joints is	
	knee.	b. thigh.	c. elbow.	d. skull.
21. W	nich of the follow	wing is from slight	ly movable joints	?
	Thigh.	b. Wrist.	c. Ankle.	d. Knee.
22. WI	nich of the follo	wing joints has lin	nited movement?	
a.	Shoulder.	b. Wrist.	c. Elbow.	d. Thigh.

Choose from column (B) what suits it in column (A):

(A)	(B)		
a. prevent friction between vertebrae. b. are the positions in which bones meet. c. consists of 33 vertebrae. d. consists of 12 pairs of ribs. e. allow movement in one direction only. f. allow movement in all directions. g. protect the brain.			
	3 4		
tatements , then correct the			
me numan locomotory s	system consists of the skeletal system and		
the muscular system.		(
The skull contains cavitie	es for eyes, ears and nose.	(
The skull contains cavitie Backbone consists of 31	es for eyes, ears and nose. pairs of ribs.	((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 pa	es for eyes, ears and nose. pairs of ribs. airs of vertebrae.	(((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 pa The ribcage helps in inha	es for eyes, ears and nose. pairs of ribs. airs of vertebrae. alation and exhalation processes.	((((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 pa The ribcage helps in inha There are ribs between the	es for eyes, ears and nose. pairs of ribs. airs of vertebrae. alation and exhalation processes. he backbone vertebrae.	((((((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 pa The ribcage helps in inhat There are ribs between the The function of cartilages	es for eyes, ears and nose. pairs of ribs. airs of vertebrae. alation and exhalation processes.	(((((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 pa The ribcage helps in inhat There are ribs between the The function of cartilages during motion.	es for eyes, ears and nose. pairs of ribs. airs of vertebrae. alation and exhalation processes. he backbone vertebrae. s is to prevent the friction between vertebrae	((((((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 pa The ribcage helps in inhat There are ribs between the The function of cartilages during motion. The backbone protects the	es for eyes, ears and nose. pairs of ribs. airs of vertebrae. alation and exhalation processes. he backbone vertebrae. s is to prevent the friction between vertebrae he sternum.	((((((((((((((((((((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 pa The ribcage helps in inhat There are ribs between the The function of cartilages during motion. The backbone protects the The appendicular skeletor	es for eyes, ears and nose. pairs of ribs. airs of vertebrae. alation and exhalation processes. he backbone vertebrae. is to prevent the friction between vertebrae he sternum. n consists of the skull, backbone and ribcage.	((((((((((((((((((((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 particles The ribcage helps in inhat There are ribs between the The function of cartilages during motion. The backbone protects the The appendicular skeletor The skeleton of lower	es for eyes, ears and nose. pairs of ribs. airs of vertebrae. alation and exhalation processes. the backbone vertebrae. is to prevent the friction between vertebrae the sternum. In consists of the skull, backbone and ribcage. limb consists of humerus bone, two forearm	((((((((((((((((((((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 pa The ribcage helps in inhat There are ribs between the The function of cartilages during motion. The backbone protects the The appendicular skeletor The skeleton of lower bones and bones of the key	es for eyes, ears and nose. pairs of ribs. airs of vertebrae. alation and exhalation processes. he backbone vertebrae. s is to prevent the friction between vertebrae he sternum. n consists of the skull, backbone and ribcage. limb consists of humerus bone, two forearm	((((((((((((((((((((
The skull contains cavities Backbone consists of 31 Ribcage consists of 12 particles The ribcage helps in inhat There are ribs between the The function of cartilages during motion. The backbone protects the The appendicular skeletor The skeleton of lower	es for eyes, ears and nose. pairs of ribs. airs of vertebrae. alation and exhalation processes. the backbone vertebrae. is to prevent the friction between vertebrae the sternum. In consists of the skull, backbone and ribcage. limb consists of humerus bone, two forearm and.	((((((((((((((((((((

N STATE OF THE STA	[2] 보고 있는 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은	
13.	Calculation Market State Market	(
14.	Immovable joints allow movement in all directions.	(-
15.	Elbow joint is an immovable joint.	(
. Wr	ite the scientific term of each of the following :	
1.	The main system that is responsible for the body movement.	(
2.	The system which consists of skeletal and muscular systems.	(
3.	The system which consists of axial and appendicular skeletons.	(
4.	The skeleton ,where the skull is related.	(
5.	Structure which consists of the skull, backbone and ribcage.	(
6.	A bony case that contains brain.	(
7.	Axis of the skeleton in the human body.	(
8.	The structure which protects the spinal cord.	(
9.	The structure which consists of 33 bony vertebrae.	(
10.	The part of the axial skeleton which allows the bending of the b	ody in
	different directions.	()
11.	Parts between vertebrae of the vertebral column separate and	protect
	vertebrae from friction during movement.	()
12.	The structure which protects the heart and lungs.	()
13.	The part of the skeletal system which helps in inhalation and ex	khalation
F	processes.	()
14.	The type of skeleton which includes the bones of upper and	the lower
	limbs.	()
		()
		()
ULL .		()
		()
19.	The joint which allows the movement in all directions.	()

5. Complete the following statements:

1.	The ability of the organism to change its position fr	om a place to another
	is called	
2	Movement occurs with the participation of	T25690 4

2.	Movement occurs with the participation of, ,	and	
	systems.		

- 3. The human locomotory system consists of and and
- 4. The human skeletal system consists of and
- 5. The axial skeleton consists of and
- 6. is a bony box containing for eyes, ears and nose.
- 7. The main function of the skull is to
- 8. The number of vertebrae of vertebral column is
- 9. are found between the vertebrae of the vertebral column.
- 10. The cartilages found between vertebrae prevent during during
- 11. The human ribcage consists of pairs of
- 12. The is the bone at which the first 10 pairs of ribs are connected anteriorly.
- 13. The ribcage protects and
- 14. helps in the inhalation and exhalation processes.
- 15. The human appendicular skeleton consists of the bones of and the bones of
- 16. The bones of upper limbs are , and and
- 17. The bones of lower limbs are and and
- 18. The is the site of two bones meeting.
- 19. The types of joints are and and
- 20. The function of joints is to
- 21. The knee joint is considered from joints, while the hip joint is considered from joints.
- 22. From the slightly movable joints is and from the freely movable joints is

	The movement is very important to living organisms.
	The presence of the brain inside the skull.
	The backbone is very important.
	There are cartilages between the vertebrae of the backbone.
	The ribcage surrounds both the heart and the lungs.
	The joints between the bones of the skull are immovable.
•	The knee joint is a slightly movable joint.
	The thigh joint is a freely movable joint.
W	hat happens when?
	All the skeletal system bones are one bone (fused).
	The backbone consists of one long bone.
	The absence of cartilage between vertebrae of the backbone.
	All the bones of the human body are without joints.
	Thigh joint has a limited movement.

8. Sta	te the function (importance) of each of the followir	ng:
1.	The skull.	
2.	The backbone.	
3.	Cartilages between the vertebrae of the backbone.	
4.	🕮 The ribcage.	
5.	Bones of upper limbs.	
6.	Bones of lower limbs.	
7.	The joints.	
8.	The slightly movable joints.	
9. 7	he freely movable joints.	
	t is meant by each of the following ? The joint.	
2. Ir	nmovable joints.	
). Det	ermine the type of the following joints :	
ı. S	kull joints :	
2. [Knee joint :	
3. G	Elbow joint :	
	rist joint :	
6. 0	nigh (hip) joint : Shoulder joint :	

	The figure represents thes	keleton and	the pon	55 OI	iimbs.
2.	Label the numbered bones :			6	— 6
	①				7
	3		(
	⑤⑥ .		(4)		
3.	Mention the functions of the structure number 4, 5 & 6.	ctures	(b)		
	J, J - J.			(5	
				$\boldsymbol{\ell}$	D -(
	Name the joints (a) and (b), then				
			4:		
Ex	camine the opposite figure, then an	swer :			
	amine the opposite figure, then an		s.		
1			s.		Pelvi
1	. The figure represents the bones		s.		Pelvi
1	. The figure represents the bones		s.		1
1	. The figure represents the bones of the Label the numbered bones :		s.		1
1	. The figure represents the bones of the Label the numbered bones : ①	oflimb	s.		bone
1	. The figure represents the bones of the Label the numbered bones : ①	oflimb	s.		bone
1	. The figure represents the bones of the Label the numbered bones : ①	oflimb	s.		bone
3	. The figure represents the bones of the Label the numbered bones : ①	oflimb	s.		bone

13. Look at the opposite figure, then complete:	
1. The figure represents the	
2. The type of joints in this structure is	
3. The function of this structure is	
14. Compare between :	
 The axial skeleton and the appendicular skeleton. 	
	Marie Company
The upper limbs and the lower limbs in the human being the second s	ng.
	9
 Freely movable joints and slightly movable joints. 	



Thinking Skills Questions

 Among the functions of some parts of the skeletal system is to protect some organs of other systems inside your body.
 According to the previous sentence, try to complete the following chart:

1.	Lungs	is kept inside	2.	Spinal cord	is kept inside	
3.	Brain	is kept inside	4.	Heart	is kept inside	

2. The following table explains parts of the locomotory system :

Part 1	Part 2	Part ③
 It protects the lungs and the heart. 	- They allow movement in one direction only.	- They are connected to shoulder bones.
- It protects the brain.	- Among their examples are knee and elbow.	- They are connected to pelvic bones.
 It protects the spinal cord. 		

Which of the following answers shows the correct name of each of the previous parts?

- a. Part 1 is axial skeleton, part 2 is slightly movable joints and part 3 is appendicular skeleton.
- b. Part 1 is slightly movable joints, part 2 is appendicular skeleton and part 3 is axial skeleton.
- c. Part 1 is appendicular skeleton, part 2 is slightly movable joints and part 3 is axial skeleton.
- d. Part 1 is axial skeleton, part 2 is appendicular skeleton and part 3 is slightly movable joints.



Project On UNIT FOUR



Reflex action is an important mechanism through which the body avoid dangers. Put (\checkmark) in front of the situation that depends on the spinal cord and put (\times) in front of the situation that depends on the cerebrum. Then write the numbers of voluntary movements and those of involuntary movements in the table below, (Explain your choices).

numbers of voluntary movements and table below, (Explain your choices).	those of involuntary movements in the	
1. At the clinic, you fix your arm, while the	e doctor try to inject a needle of a syringe	9
into your arm skin.	The state of the s)
Someone appears suddenly to you from the companies of the companie	om behind a wall and you get surprised.	4
	()
3. You just finish your breakfast, then yo	u see other types of food so, you don't tr	V
to eat more food.	()
 Suddenly, your foot hits a rock and yo falling. 	u try to hold yourself to prevent	
	()
5. You try to cross a hole in the road dur	ing walking. ()
$m{6}$. You hold a very hot cooking pot that y	ou don't know its temperature. ()
Voluntary movements	Involuntary movements	
Numbers of situations :	Numbers of situations :	
• Explanation :	• Explanation :	
• Explanation ;	• Explanation :	24



SERIES



SCIENCE Notebook

By A Group of Supervisors

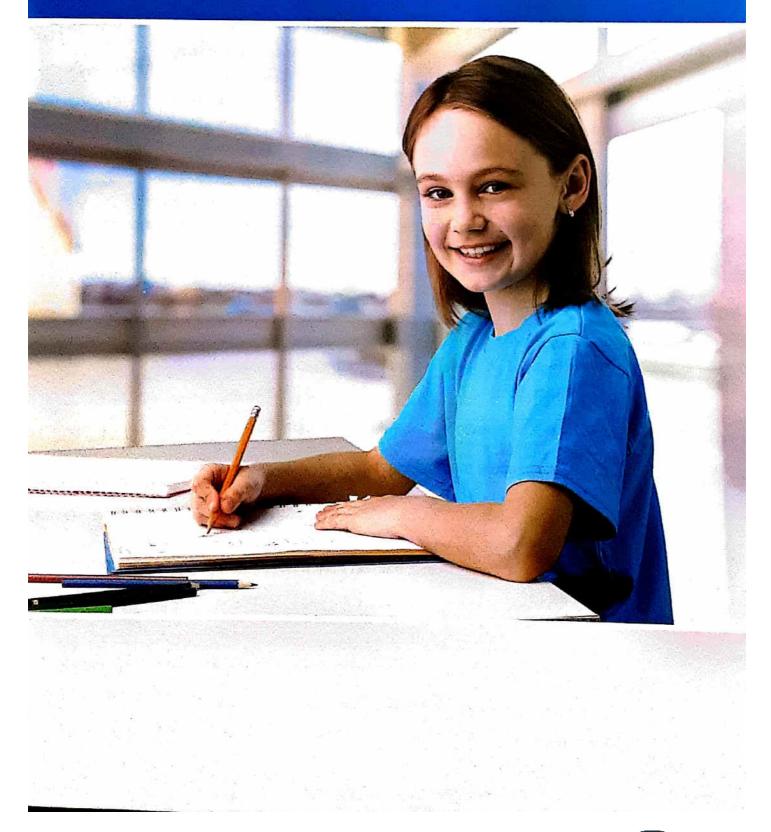


Contents

Part	Worksheets
4	• Worksheet on Unit (1)
	General Exercise of the school book on Unit (1)
	• Model Exams on Unit (1) 8-1
	Worksheets on Unit (2)
	Worksheets from (2) to (3)
	General Exercise of the school book on Unit (2)
	Model Exams on Unit (2)
	• Worksheets on Unit (3)
	Worksheets from (4) to (9)
	General Exercise of the school book on Unit (3)
	• Model Exams on Unit (3)
	• Worksheets on Unit (4)
	Worksheets from (10) to (12)
	General Exercise of the school book on Unit (4) 51- 52
	• Model Exams on Unit (4) 53-56
eta Ki	물병들은 이 이 경찰을 보면하는 사람들은 모양하는 그 그 말을 했다고 했다.
Part	Final Revision
9	• Final Revision on Unit (1)
2	• Final Revision on Unit (2)63
	• Final Revision on Unit (3)
	Final Revision on Unit (4)
	"걸레이트라기" 그러고 있는 그 아는 그는 그들이 모든 그는 것이 모든다.
Part	Final Examinations
3	• Final Examinations of some Governorates 202297

PART

Worksheets



THE LESSON

Worksheet 1

Answer each of the following questions :

object,
liopolis Sch. / Cairo 2022)
Earth is known as
dy.
creases and
the measuring unit
House Sch. / Cairo 2022)
····· of its weight on
(Damietta 2020)

able shelf.
able shelf. (Menofia 2020)
able shelf. (Menofia 2020)
able shelf. (Menofia 2020,
able shelf. (Menofia 2020)
able shelf. (Menofia 2020,
able shelf. (Menofia 2020)
able shelf. (Menofia 2020) ight on the Earth's Joseph Sch. / Cairo 2020
able shelf. (Menofia 2020)
1

w	v 2	1000		10		_	e	4	-
v	W.	$\boldsymbol{\alpha}$	п	v	e	n		т	и.

[A] Complete the following table :				
Mass of a body on the Earth's su	urface	30 kg.	kg.	gm.
Weight of a body on the Earth's s	surface	···· Newton	10 Newton	30 Newton
[B] Write the scientific term :				
 A device used to measure the chemicals. 	mass of	small objec	New York	nd)
The measuring unit of mass the water.	at equal			distilled)
[A] What is meant by ?				
1. Weight:		(Ma	nor House Sch	. / Cairo 2020)
2. Mass :				
B] Choose the correct answer :	2			- 1
By increasing the distance between so the weight of this object		object and t	he Earth's s	urface,
a. decreases.	b	. increases.		
c, is not affected.	d	. is doubled.		
All the following scales can be except	used to	determine th	e mass of a	n object
a. sensitive balance.	b	. balance sc	ale.	
c. digital scale.	d	spring scale	э.	
3. Object's weight on the Earth's s	surface ((Newton) = N	Mass (kg.) ×	
a. 1	b	. 10		

5. [A] Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Gram	a. the measuring unit of weight.
2. Kilogram	b. the measuring unit of big masses.
3. Newton	c. always affects towards the center of the Earth
4. Weight	d. the measuring unit of small masses.
	e. does not change with changing the place.

[B]	If the mass of an object on	the Ea	arth's s	urface	equals	60 ka
	Calculate the following :		A.C.		2	

Its mass on the moon's surface.	(Akhnaton Egyptian Sch. / Cairo 2020)
2. Its weight on the Earth's surface.	(Port Said 2020)
3. Its weight on the moon's surface.	(Manor House Sch. / Cairo 2022)

General Exercise of the School Book



on Unit 1

Choose the correct answer	r / 2 2 3 3 3	
1. The device of measuring w		
a. one-arm scale. b. two	-arms scale. c. digital s	scale. d. spring scale
An object whose weight is a. 10 kg. b. 2 kg	1 22-232 U	
Complete the following sta Mass is measured by Mass is the amount of mat according to	, whereas weight is me	
3. An object's weight depend	s on , and	I
Fill in the following table : Points of comparison	Mass	Weight
Definition :		
Unit of measurement :		
Device of measurement :		
Direction :		
Effect of different places :		
If an object's mass = 30 kg. 1. Its mass on the moon. 2. Its weight on the Earth.		e:
3. Its weight on the moon.		

Model Exam 1 on Unit 1



Answer the following questions:

ing statements :		(6 marks
gram and it is equal	al to the mass of ···	and suitable
isvalue a		
ing unit of weight	which is almost eq	Queen Sch. / Giza 2020 ual to the weight of
д г. н. 1 . г. г.		\$
erson on the Earth' e.	s surface is larger t	han that on
ly on the Earth's s the moon's surfac		ne mass of a Sch. / Kalyoubia 2020,
answer : e Earth's surface e is Newt	is 600 Newton, so	(6 marks) your weight on
b. 60	c. 100	d. 10
is 2 kg., so its we	ight on the Earth is	equal to
D. 20 Newton.	C. 200 Newton	d O 2 Noviton
	alloon is th	at on the Earth's
b. larger than	c. equal to	d. double
b. 500 kg.	c. 5 kg.	d. 0.5 kg.
?		
rson is equal to 70	00 Newton.	

	gram and it is equal masses. is walue a ing unit of weight is surface whose in the Earth's surface who is an answer: Earth's surface is well as is well	ing unit of weight which is almost equits surface whose mass is

[A] Put (✓) or (ϫ) :			(6 mai	rks)
1. Spring scale is used to	measure the mass of o	bjects.	()
		(Al Resala Sch. / Kaly	oubia 20	20)
2. The weight of an object	equals 6 times of it	s weigh	ıt	
on the moon's surface.		()	
3. Weight is the amount of	f matter in an object.		()
4. The effect of weight is a	always directed towards	the center of the E	arth.	
			· ()
[B] What happens when '	?			
1. There is no gravity on t	he Earth's surface.			
[A] Write the scientific term		of October Directorate	Giza 20	_
The measuring unit of		Sch. / Cairo 2022) ()
2. The amount of matter				
2. 110		(Saint Joseph Sch. /	Cairo 20	20)
3. The measuring unit of	weight.	· · · · · · · · · · · · · · · · · · ·		····)
		(Leaders New Sch. /	Cairo 20)20)
4. The force by which a b	oody is attracted to the I	Earth. (····		····)
		(North Dir.	/ Giza 20)22)
[B] Compare between :	The second secon			
Points of comparison	Mass	Weigh	t	
Measuring devices :				
				- 1

Model Exam



on Unit 1

24

Answer the following questions:

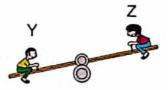
1. [A] Choose the correct answer :

(6 marks)

- 1. nearly equals the mass of one paper clip. (Saint Joseph Sch. / Cairo 2020)
 - a. Kilogram
- b. Gram
- c. Newton
- d. Ton
- 2. The Earth gravitational force, as the distance between an object and the center of the Earth increases.
 - a. decreases
- b. increases
- c. doesn't change
- d. is doubled
- 3. The object's weight on the moon = Its weight on the Earth +
 - a. 6
- b. 0.6
- c. 16
- d. 61
- Three children X, Y and Z are using a seesaw.

What is the correct order of the children's weight (from the heaviest weight to the lightest weight)?







a. X > Z > Y

b. Y > X > Z

c. Y > Z > X

- d.Z>Y>X
- [B] If you know that the weight of an object on the Earth's surface is 480 Newton. Calculate :
 - 1. Its mass on the Earth's surface.

2. Its weight on the moon's surface.

its weight on the meen a cana

	words :	Correct the underli
at	ect doesn't change according to the planet tha	1. The weight of an
	(Heliopolis Sch. / Cairo 2022) (·······	the object exists of
n.	dy on the Earth is more than that on the moon	2. The mass of your
	(Luxor 2020) (
)	ect is measured in kilogram. (3. The weight of an
in	n object increases, the extension of the spring i	
)		the spring scale of
		_
		Give reasons for :
	ce of the Earth is more than that of the moon.	1. The gravitational
(6 marks	(B) what suits it in column (A) :	Choose from colu
(6 marks	(B) what suits it in column (A) :	Communication of the second of the second
	(B)	(A)
er.		(A) 1. Two grams
er.	(B) equal to the mass of five liters of distilled water	(A) 1. Two grams 2. Five kilograms
er.	(B) equal to the mass of five liters of distilled water almost equal to the weight of an object on the l	(A) 1. Two grams 2. Five kilograms 3. Newton
er.	(B) equal to the mass of five liters of distilled water almost equal to the weight of an object on the l surface whose mass is 100 grams.	(A) 1. Two grams 2. Five kilograms
er.	equal to the mass of five liters of distilled water almost equal to the weight of an object on the l surface whose mass is 100 grams. may be equal to the mass of two paper clips.	(A) 1. Two grams 2. Five kilograms 3. Newton
er.	equal to the mass of five liters of distilled water almost equal to the weight of an object on the lasurface whose mass is 100 grams. may be equal to the mass of two paper clips. equals 1000 grams. may be equal to the mass of one paper clip.	(A) 1. Two grams 2. Five kilograms 3. Newton 4. One kilogram
er.	equal to the mass of five liters of distilled water almost equal to the weight of an object on the lasurface whose mass is 100 grams. may be equal to the mass of two paper clips. equals 1000 grams. may be equal to the mass of one paper clip. 3	(A) 1. Two grams 2. Five kilograms 3. Newton 4. One kilogram
er. Earth's	equal to the mass of five liters of distilled water almost equal to the weight of an object on the surface whose mass is 100 grams. may be equal to the mass of two paper clips. equals 1000 grams. may be equal to the mass of one paper clip. 3	(A) 1. Two grams 2. Five kilograms 3. Newton 4. One kilogram 1
er. Earth's	equal to the mass of five liters of distilled water almost equal to the weight of an object on the lasurface whose mass is 100 grams. may be equal to the mass of two paper clips. equals 1000 grams. may be equal to the mass of one paper clip. 3	(A) 1. Two grams 2. Five kilograms 3. Newton 4. One kilogram 1
er.	equal to the mass of five liters of distilled water almost equal to the weight of an object on the lasurface whose mass is 100 grams. may be equal to the mass of two paper clips. equals 1000 grams. may be equal to the mass of one paper clip.	(A) 1. Two grams 2. Five kilograms 3. Newton 4. One kilogram

4. [A] Write the name of the device that is used to measure the following :

		(6 marks
1. The mass of chemicals in the la	aboratory.	(
2. The mass of vegetables and from	uits.	(
3. The weight of your school bag.		(
4. The mass of a golden ring.		(
[B] What happens if ?		
 You travel from the Earth's surf your weight). 	ace to the moon's surface (according to
2. The mass of an object increase	s. (Future	es Sch. / Cairo 2020)

Worksheet 2

nswer each of the following questions :	
Complete the following sentences :	
1. Temperature is the degree of or	··· of a body.
2. Wood is a conductor of heat, while all	uminium is a conductor
of heat.	(Queen Sch. / Giza 2020
3. All such as iron and copper are	conductors of heat.
	(Manflout Dir. / Assiut 2022
4. Handles of cooking pots are made of heat	materials such as plastic
and	(Bloom Sch. / Giza 2020
5. Heat is used in many industries such as	and
and the state of t	(St.Joseph Sch. / Cairo 2022
Cooking pots are made of aluminium.	
3. Wearing heavy woolen clothes in winter.	(Kafr El-Sheikh 2020
B] Put (√) or (x), then correct the underline	
1. Metals are equal in conducting heat.	(El-Agoza Dir. / Giza 2022) (
2. Heat always transfers from the cold objec	t to hot object. ()
	(Futures Sch. / Cairo 2020,

Choose the corre	ect answer:		
1. Which of the follo	owing devices is the r	neasuring device of	f temperature ?
a. Digital balanc		b. Thermometer.	
c. Balance scale		d. Spring scale.	
		(Des	ouk Dir / Kafr El-Sheikh 2022
2. Woolen clothes	and heavy blankets	are used in winter	to keep ······
a. body warm.			d. weather cold.
3 is a go	od conductor of heat		
a. Plastic	b. Glass	c. Copper	d. Wood
4. Heat transfers f	rom		
a. a hot object to	an object that has t	he same temperat	ure.
b. a cold object			
c. a hot object to	a cold object.		
d. a cold object	to an object that has	the same tempera	ture.
5. Copper			
a. doesn't allow	heat to flow through.		
b. allows heat to	flow through.		
c. is a heat insul	ator.		
d. is a bad cond	uctor of heat.		
[A] What is mean	t bv ?		
1. Heat:	,		
2. Temperature	•		
[B] Write the scien	ntific term :		
1. Materials tha	t allow heat to flow th	rough. (Gha	arbia 2020) (······)
	netal in conducting he		()
3. Materials tha	t don't let heat flow t	hrough.	()
			(Futures Sch. / Cairo 2020)

	 What happens when ? You hold a piece of ice in your har 	nds. (6 th of October Directorate / Giza 202)
			••
	0.7	return touch each other	٠
	2. Two bodies have the same temper	rature touch each other.	
		l	
[E	3] Classify the following materials in	o heat conductors and neat	
	insulators :	nium Wood - Stainless steel - Water	١
	(Iron – Plastic – Air – Copper – Alumi	nium – Wood – Stainless steel – Water	•
		AND AND ADDRESS OF A STORY OF THE STORY OF T	
	Heat conductors	Heat insulators	
	Heat conductors	Heat insulators	

Worksheet 3

Answer	each	of	the	following	questions	
					QUCSUUIIS	

1.	Complete the following sentences :
	The main idea of thermometer is the change in the of the liquid inside it according to the change of
	2 is used in measuring the temperature of different liquids,
	whereasis used in measuring the temperature of the human body.
	(Manor House Sch. / Cairo 2020)
	3. In Celsius thermometer, the lower fixed point is degree,
	while the upper fixed point is degree. (Al Resala Sch. / Kalyoubia 2020)
	4. In medical thermometer, each degree is divided into parts,
	where each part equals degree.
1	5. Liquids expand by and contract by
	2 Name - 1
	Mercury gives a wide range to measure the temperature.
	(Ismailia 2022)
	3 Thermometers must be kept out the reach of the
	Thermometers must be kept out the reach of children.
	[B] Put (✓) or (×):

	Worksheets
The scale of the medical therm	
	s used in the manufacture of medical
thermometer.	(Assuit 2020) (
[A] What happens if ?	
1. The medical thermometer is plant	aced in a cup of boiled water.
	(El-Helmia Sch. / Cairo 20
You seize the medical thermon	neter firmly with your teeth.
[B] Choose the correct answer :	
1. The contains a constrict	tion.
a. Celsius thermometer	b. medical thermometer
c. spring scale	d. digital scale
2is used to measure the	temperature of human body.
a. Medical thermometer	b. Celsius thermometer
c. Spring scale	d. Balance scale
3is the liquid that is used	in making thermometers.
a. Water	b. Mercury
c. Alcohol	d. Oil
	(Al-Montazah Zone / Alex. 20.
Write the scientific term :	
1. A device used to measure the temp	perature. (
2. A small structure in the medical the	ermometer that prevents mercury to return
back to the mercury bulb.	(

4. A device that is used to measure the temperature of iced water.

5. The boiling point of water.

الحاصد علوم لغات (Notebook) / ٦ ب/ ليرم ١ (م: ٣)

(Manor House Sch. / Cairo 2020)

5. Look at the opposite figures , then answer the following questions :

 Label the fig 	gures:
-----------------------------------	--------

	1	
(1)		

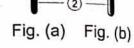
②

③

4

2. Figure (a) represents the which is used to measure

3. Figure (b) represents the which is used to measure



4. What is the importance of part number ① ?

General Exercise of the School Book



on Unit 2

Complete the following st	tatements :			
1. We measure temperatur	e by using			
is used in measuring temperatures of different liquids, whereas				
is used in measuring the	temperature of the human	body.		
, and are good conductors of heat.				
1 and	are bad conductors of h	eat.		
Write the scientific term f	or each of the following	statements :		
I. A device used to measur	e temperature.	(
2. The materials that allow	the flow of heat inside.	(
3. The materials that do not	t allow the flow of heat insid	de. (
	uses of the good and ba			
ill in the spaces of the fo	ollowing tables :			
	ollowing tables :			
ill in the spaces of the fo	ollowing tables :			
ill in the spaces of the fo	ollowing tables :			
Points of comparison Usage:	ollowing tables :			
ill in the spaces of the fo	ollowing tables :			
Points of comparison Usage:	ollowing tables :			

	n Good conductors of heat	Bad conductors of h	eat
Definition :			
Usage :		la no la la	
Examples :			
nd correct the false o	correct statements and (x) nes: is used in measuring the temp		ne
. The scale of the Celsi	us thermometer starts from 35		
. Aluminium is a bad co	nductor of heat.	(
. Wood is a good cond			
100			
Vrite an explanation f	or each of the following :		
	or each of the following :		
Vrite an explanation for the second s	or each of the following: rmometers. g utensils are made of wood		
Vrite an explanation for the work of the w	or each of the following :	or plastic.	

Model Exam



on Unit 2

24

Answer the following questions:

1. [A] Complete the following statements :

(6 marks)

- 1. Wool is a conductor of heat, while copper is a conductor of heat.
- 2. Handles of cooking pots and electric iron are made of or
- 3. The main idea of thermometer action is changing the of liquid inside it as the changes.
- 4. Mercury is used in making thermometers because it is a metal and a conductor of heat.

[B] What happens if ... ?

- The handles of cooking pots are made of aluminium.
- 2. A medical thermometer is put in boiled water. (Futures Sch./Cairo 2020)

2. [A] Choose the correct answer :

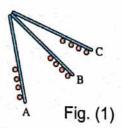
(6 marks)

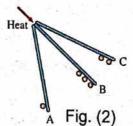
- 1. The normal temperature of the healthy person is
 - a. 36.4°C.
- b. 38°C.
- c. 37°C.
- d. 40°C.
- 2. The scale of Celsius thermometer ranges between
 - a. zero°C to 10°C.

b. zero°C to 100°C.

c. zero°C to 50°C.

- d. 37°C to 42°C.
- - a. (A) is copper, (B) is iron and (C) is aluminium.
 - b. (A) is iron, (B) is aluminium and (C) is copper.
 - c. (A) is aluminium, (B) is copper and (C) is iron.
 - d. (A) is copper, (B) is aluminium and (C) is iron.





21

	4. Heat transfers from
	a. a glass of hot tea to a glass of ice.
	b. a glass of ice to a glass of hot tea.
	c. a glass of hot tea to another glass of tea that has the same temperature
	d. a glass of ice to another glass of ice that has the same temperature.
ſΒ] Give reasons for :
	All metals are good conductors of heat.
	2. The presence of a constriction in the medical thermometer.
4.5	(Futures Sch. / Cairo 2020)
[/	A] Give the scientific term : (6 marks
	1. A liquid metal that is used in making thermometer. (Ismailia 2020)
	2. A type of thermometers that its scale ranges from 0°C to 100°C. (
	A material that is used in making heavy blankets.
	A modern device used to measure the body temperature
	especially for children.
[E	B] What is meant by ?
	1. Heat conductors :
	2. Heat:
r	A] Put (√) or (x):
Ľ	16 marks
	We can measure the temperature accurately by touching.
	You shouldn't sterilize the medical thermometer before use.
	3. The normal temperature of the healthy person is 35°C.
	Copper is the fastest heat conductor.
L	B] Explain why mercury is used in the manufacture of thermometer.
	(4 reasons only): (Akhnaton Egyptian Sch. / Cairo 2020

Model Exam

2

on Unit 2

24

Answer the following questions:

. [A] Choose the	correct answer :		(6 marks)
1condu	ucts heat faster than	aluminium.	
a. Copper	b. Iron	c. Wood	d. Glass
2. All the following	g are heat insulators	except	
a. air.	b. wool.	c. stainless stee	l. d. plastic.
3is use	d to sterilize the med	dical thermometer l	pefore using.
a. Mercury		c. Boiled water	d. Cold water
	8 8 9	(Le	eaders New Sch. / Cairo 2020)
4. You feel hot wh	ien you touch a cup	of tea, because the	e temperature of the cup
is that	of your hand.	(AI	Resala Sch. / Kalyoubia 2020)
a. more than	b. less than	c. equal to	d. half
2. Ethyl alcoho	ol :		anor House Sch. / Cairo 2022)
[A] Put (√) or (x	:):		(6 marks)
	of a liquid changes	by changing the te	mperature. ()
	n making the insulat		
	bad heat conductor		Sch. / Kalyoubia 2020) ()
	sed in making handle		()
[B] Give reasons			
2 You feel cold	I when touching a pi		nsoura Zone / Dakahlia 2020)
	and the second of the second	The state of the s	

temperature object.	temperature object to the	e / Giza 202
2. The melting point of ice is is°C.	°C, while the boiling point of	water
3. Cooking utensils are made	e up of or	
4. Mercury remains in a liqui	d state between°C and	····· °C.
B] What is meant by?		
1. Heat insulators :	(Manor House Sch.	. / Cairo 202
2. Temperature :	what quite it in column (A):	(6 mark
[A] Choose from column (B) v	· · · · · · · · · · · · · · · · · · ·	(6 mark
[A] Choose from column (B) v	(B)	(6 mark
(A) (A) 1. Celsius thermometer.	(B) a. its scale is from 35°C to 42°C.	(6 mark
(A) 1. Celsius thermometer. 2. Freezing point of water.	a. its scale is from 35°C to 42°C. b. is 37°C.	(6 mark
(A) 1. Celsius thermometer. 2. Freezing point of water. 3. Medical thermometer.	a. its scale is from 35°C to 42°C. b. is 37°C. c. is 0°C.	(6 mark
(A) 1. Celsius thermometer. 2. Freezing point of water.	a. its scale is from 35°C to 42°C. b. is 37°C. c. is 0°C.	(6 mark
(A) 1. Celsius thermometer. 2. Freezing point of water. 3. Medical thermometer. 4. The normal human body temperature.	a. its scale is from 35°C to 42°C. b. is 37°C. c. is 0°C. d. its scale is from 0°C to 100°C. e. is 100°C.	
(A) 1. Celsius thermometer. 2. Freezing point of water. 3. Medical thermometer. 4. The normal human body temperature. 2	a. its scale is from 35°C to 42°C. b. is 37°C. c. is 0°C. d. its scale is from 0°C to 100°C. e. is 100°C.	
(A) 1. Celsius thermometer. 2. Freezing point of water. 3. Medical thermometer. 4. The normal human body temperature. 1	(B) a. its scale is from 35°C to 42°C. b. is 37°C. c. is 0°C. d. its scale is from 0°C to 100°C. e. is 100°C. 3	
(A) 1. Celsius thermometer. 2. Freezing point of water. 3. Medical thermometer. 4. The normal human body temperature. 1	a. its scale is from 35°C to 42°C. b. is 37°C. c. is 0°C. d. its scale is from 0°C to 100°C. e. is 100°C. 3	/ Cairo 202

Worksheet 4

Answer each of the following questions:

٧	/rite the scientific term :			
1	. A mixture of gases surrou	nding the Earth. (Futures So	ch. / Cairo 202	0)()
2	. The chemical substance t	hat acts as a catalyst in th	e preparatio	on of oxygen
	gas in laboratory.	(Manarat Al Farouk Islamic So	ch. / Cairo 202	0)()
3	. The way that is used to co	ollect oxygen gas in labora	itory.	()
4	. The process by which plan	nts take carbon dioxide gas	s and produ	ce oxygen gas.
				()
5	. A chemical substance that	t remains without any char	nge during t	he chemical
	reaction.		(Gharbia 202	0)()
4.	gas is consumed in gas is prepared in presence of manganese days in photosynthesis process salts to produce ar Oxygen represents	laboratory by the decompositioxide. s, the plant takes, which is the plant takes	osition of	
	ook at the opposite figure Why does the water rise up		ons:	Cylinder

4.	[A]	Give	reasons	for	
	100	201			

Oxygen is collected by downward displacement of water.

(Kafr El-Dawar Dir. / Behira 2022)

Smoke and dust particles are air pollutants, but they are important in formation of snow and rains.

 Manganese dioxide is considered as a catalyst during the preparation of oxygen. (Luxor 2020)

[B] 1. Look at the opposite figure, then answer:

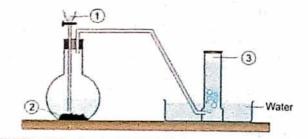
(Gharbia 2020)

The opposite apparatus is used in preparation of

2. Label the figure :

- Aller													
0	4	ş		*		*	A	*	ś		,	 ×	,





5. [A] Choose the correct answer :

- 1. All the following statements concerning the atmosphere except
 - a. it adjusts the temperature of the Earth's surface.
 - b. it consists of oxygen and nitrogen only.
 - c. it protects the Earth from ultraviolet radiation coming from outer space.
 - d. it is attracted to the Earth by gravity.
- 2. The percentage of oxygen gas equals ---- of the air volume.

b. $\frac{1}{5}$

c. $\frac{1}{4}$

d. $\frac{1}{8}$

- 3. Oxygen is prepared by the decomposition of
 - a. hydrogen.

b. nitrogen oxide.

- c. hydrogen peroxide.
- d. calcium carbonate.

[B] What happens if ... ?

The percentage of oxygen gas in air increases more than 21%

(Akhnaton Egyptian Sch. / Cairo 2020)

Worksheet 5

Answer each of the following questions:

3. Oxygen gas doesn't	burn and doesn't help in burning.	(
3. Oxygen gas doesn't	burn and doesn't help in burning.	(
4. The mass of elemer		
	its decreases after combination with oxygen.	(
5. Oxygen gas is comp	pressed in cylinders to be used during diving and	climbing
mountains.		(
Complete the followi	ng statements :	
1. The rapid combinati	on between oxygen and an element is w	hile
is the slow combinat	tion between oxygen and an element. (Genius Sch.	/ Giza 20
2. Oxy-acetylene flame	e is used in and of metals.	
	(Al-Montazah Zone	/ Alex. 20
3. Oxygen gas ·······	dissolves in water, so it is prepared in laboratory	by
4. Oxygen combines w	vith lighted magnesium to form which is w	hite mat
	composed of atoms, but oxygen molecule)
is composed of	····· atoms.	-71
Maria II ali	must isolate ironware by paints.	

	(St. Joseph Sch. / Cairo 202
A burning fragment is inserted	
[A] Write the scientific term :	
	en oxygen and an element in the presence of the of October Directorate / Giza 2020) (
A layer in the atmosphere that coming from the Sun.	protects the Earth from harmful radiations
	of oxygen combines with hydrogen.
	(
[B] Mention two uses of oxygen ga	as.
2	
[A] Choose the correct answer :	
 1.Oxygen cylinders are used in a 	
	Il the following purposes except
a. in mechanical ventilation.	b. during diving.
70 00 0 0 100 0 0 0 0 0 0 0 0 0 0 0 0 0	b. during diving.
a. in mechanical ventilation.c. to avoid harmful radiation.	b. during diving.
a. in mechanical ventilation.c. to avoid harmful radiation.	b. during diving. d. during surgeries. ed as a result of combination between
a. in mechanical ventilation.c. to avoid harmful radiation.2. Oxy-acetylene flame is obtaine	b. during diving. d. during surgeries. ed as a result of combination between
a. in mechanical ventilation.c. to avoid harmful radiation.2. Oxy-acetylene flame is obtaine a. oxygen with hydrogen.	b. during diving. d. during surgeries. ed as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen.
 a. in mechanical ventilation. c. to avoid harmful radiation. 2. Oxy-acetylene flame is obtaine a. oxygen with hydrogen. c. acetylene and nitrogen. 	b. during diving. d. during surgeries. ed as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen.
 a. in mechanical ventilation. c. to avoid harmful radiation. 2. Oxy-acetylene flame is obtaine a. oxygen with hydrogen. c. acetylene and nitrogen. 3. Water molecule consists of 	b. during diving. d. during surgeries. ed as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen.
 a. in mechanical ventilation. c. to avoid harmful radiation. 2. Oxy-acetylene flame is obtaine a. oxygen with hydrogen. c. acetylene and nitrogen. 3. Water molecule consists of a. one oxygen atom and one hydrogen and one hydrogen. 	b. during diving. d. during surgeries. d as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen. ydrogen atom. oxygen atoms.
 a. in mechanical ventilation. c. to avoid harmful radiation. 2. Oxy-acetylene flame is obtaine a. oxygen with hydrogen. c. acetylene and nitrogen. 3. Water molecule consists of a. one oxygen atom and one hy b. one hydrogen atom and two 	b. during diving. d. during surgeries. ed as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen. ydrogen atom. oxygen atoms. ydrogen atoms.
 a. in mechanical ventilation. c. to avoid harmful radiation. 2. Oxy-acetylene flame is obtained an acetylene and nitrogen. c. acetylene and nitrogen. 3. Water molecule consists of	b. during diving. d. during surgeries. ed as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen. ydrogen atom. oxygen atoms. ydrogen atoms.
 a. in mechanical ventilation. c. to avoid harmful radiation. 2. Oxy-acetylene flame is obtained an acetylene and nitrogen. c. acetylene and nitrogen. 3. Water molecule consists of	b. during diving. d. during surgeries. ed as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen. ydrogen atom. oxygen atoms. ydrogen atoms.
 a. in mechanical ventilation. c. to avoid harmful radiation. 2. Oxy-acetylene flame is obtained an acetylene and nitrogen. c. acetylene and nitrogen. 3. Water molecule consists of	b. during diving. d. during surgeries. ed as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen. ydrogen atom. oxygen atoms. ydrogen atoms.
 a. in mechanical ventilation. c. to avoid harmful radiation. 2. Oxy-acetylene flame is obtained an acetylene and nitrogen. c. acetylene and nitrogen. 3. Water molecule consists of acetylene atom and one hybrid be one hydrogen atom and two continuous continuous atoms and two hybrid one oxygen atom and two hybrid oxygen atom and two hybri	b. during diving. d. during surgeries. d as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen. ydrogen atom. oxygen atoms. ydrogen atoms. ydrogen atoms.
 a. in mechanical ventilation. c. to avoid harmful radiation. 2. Oxy-acetylene flame is obtained an acetylene and nitrogen. c. acetylene and nitrogen. 3. Water molecule consists of	b. during diving. d. during surgeries. d as a result of combination between b. acetylene with hydrogen. d. acetylene with oxygen. ydrogen atom. oxygen atoms. ydrogen atoms. ydrogen atoms.



Worksheet 6

Answer each of the following questions:

wer each of the following quest	ions:				
Choose the correct answer :					
1. All the following processes proc	duce carbon dioxide gas except				
a. respiration process.	b. combustion of coal.				
c. combustion of tobacco.	d. photosynthesis process.				
2. Carbon dioxide gas is produced	from respiration of				
a. animals only.	b. plants only.				
c. humans only.	d. animals, plants and humans.				
3. Carbon dioxide molecule consis	sts of one carbon atom linked with				
a. one oxygen atom.	b. two oxygen atoms.				
c. two nitrogen atoms.	d. one hydrogen atom.				
4. Preparation of carbon dioxide o	ccurs by				
a. adding dilute hydrochloric ac					
b. adding dilute hydrochloric ac					
c. adding hydrogen peroxide to manganese dioxide.					
d. adding dilute hydrochloric aci	d to calcium hydroxide.				
5. Limewater is used to detect the	presence of carbon dioxide gas in air due to				
formation of which is inse	oluble in water.				
a. calcium carbonate	b. calcium oxide				
c. nitrogen gas	d. sodium hydroxide				
Al Cive reasons for :					
A] Give reasons for :	parban diavida gas is sir				
Increasing the percentage of	Carbon dioxide gas in all.				
	(St.Joseph Sch. / Cairo 2022)				
2 Carbon dioxide gas is not co	ollected by displacement of water.				
	(Genius Sch. / Giza 2022)				
3. Limewater is used to detect	the presence of carbon dioxide gas.				
성기들이 되지 않았다. 생활하다	(Shebien El-Koum Dir. / Menofia 2022)				
The same of the sa					

	2. This activity proves that Clear limewater	Germin bean s
1.1	bmplete the following statements: By adding to we can prepare carbon dioxide Carbon dioxide is prepared by displacement of air as air.	gas. <i>(Menofia 20</i> it is ······· thar
4.	dioxide gas. Carbon dioxide molecule consists oflinked with two Carbon dioxide is used in	
Lo	ook at the opposite figure, then answer: (Al Resala	Sch. / Kalyoubia 20
2.	This apparatus is used in preparation of By adding liquid (a) to substance (b), evolves. Label the figure: (a) (b) (c)	Су
	ut (√) or (x) and correct the wrong ones : Decreasing the green areas causes increasing the percentage dioxide gas in air.	(
2.	Carbon dioxide is necessary for humans to build their bodies	s. (
3.	Oxygen is collected during its preparation in laboratory by up displacement of air. (Al-Montazah D	oward
	Carbon dioxide molecule consists of one carbon atom linked	with two oxyge
	atoms.	

Worksheet 7

Answer each of the following questions	wer each of	the following	questions
--	-------------	---------------	-----------

4					
۱.	[A]	Give	reasons	for	

[B]

1. Adding yeast to dough.		(Qena 2020)
Carbon dioxide gas has many uses.	- j	
Carbon dioxide gas is used in extinguishing fires.	(Bloom S	ch. / Giza 2020)
Look at the opposite activity, then answer :		Magnesium ribbon
The combustion of magnesium ribbon in this activity produces which is a white powder and which is a black substance.		CO

2. [A] Choose the correct answer :

- All the following are from the properties of carbon dioxide gas except
 - a. it is heavier than air.
 - b. it doesn't burn and doesn't help in burning.
 - c. it easily dissolves in water.
- d. it scarcely dissolves in water.
- 2. Which of the following is from the importance of carbon dioxide gas?
 - a. It is used in cutting and welding metals.
 - b. It is used in diving.
- c. It is used in making soft drinks.
- d. It is used during climbing mountains.
- 3. When a glowing magnesium ribbon is inserted in a jar containing carbon dioxide gas, element deposits on the wall of the jar.
 - a. carbon
- b. magnesium
- c. sodium
- d. chlorine

(Bloom Sch. / Giza 2020)

	(St. Joseph Sch. / Cairo 202
Complete the following sentences :	
 Adding yeast to dough produces expands by heat making bread porce 	gas during process that
2. Carbon dioxide gas is converted int but by relieving pressureis p	oby pressure and cooling,
 Increasing the percentage of carbonalsophenomenon. 	n dioxide gas causes and
 Carbon dioxide is necessary for pla for baker in making 	nts to make process and necessary
5. When adding lemon juice to sodium	bicarbonate, gas is produced.
2. Inserting a lighted magnesium ri	bbon in a cylinder filled with CO ₂
	(Al-Montazah Zone / Alex. 2020)
The percentage of carbon dioxid	e gas in air decreases.
	(Al Resala Sch. / Kalyoubia 2020)
	on dioxide gas.
Put (✓) in front of the correct stater ones, then correct it :	ments and (x) in front of the incorrect
Carbon dioxide is used in extinguishi	ing fires.
. Calbon dioxido is assessinguiorii	•



2.	The black substance that deposits on the wall of the cylinder due to		
	the reaction between carbon dioxide and magnesium ribbon is magne	esium	
	oxide.	(
3.	Global warming is a phenomenon that occurs due to increasing the pe	ercenta	ige
	of oxygen gas in air.	(
-		,	,
4.	Carbon dioxide gas helps in burning.		
5.	Carbon dioxide gas is used in making dry ice and soft drinks.	. ()

UNIT September 1

Lessons 1&2

Worksheet 8

b. three oxygen d. two hydrogen and one oxygen			
b. three oxygen			
Microsophic Control Co			
 d. two hydrogen and one oxygen 			
 b. sodium carbonate. 			
d. calcium hydroxide.			
uses of carbon dioxide gas ?			
 b. Mechanical ventilation. 			
d. Cutting and welding of metals.			
produces carbon dioxide.			
b. sodium bicarbonate			
d. calcium sulphate			
c. heavier d. colder			
wnward displacement of water, while carbo this method. (El-Helmia Sch. / Cairo 202			
drinks has many bad effects on the human			
ing out fires. (Al-Montazah Zone / Alex. 202			
vare. (
d			

3.	Complete the following se	ntences :				
Cell	In the atmospheric air, oxygen gas represents					
	2. The solid chemical substance used during preparation of oxygen is, while the solid chemical substance used during preparation of carbon dioxide is					
3	3. Green plants use gas during their respiration, while they produce gas during photosynthesis.					
	4. The temperature of	flame rises to 3500°C, s	so it is used in			
	5. When a lighted magnesium ribbon is placed in a jar filled with gas, a white powder and a substance are produced.					
4.	[A] What happens if ?					
	 Ironware are not paint 					
	Calcium carbonate reacts with dilute hydrochloric acid.					
	3. Yeast is added to dough during making bread.					
	[B] Put (√) or (≭):					
4.1	1. Oxygen and carbon d	ioxide scarcely dissolve in	water. (
	Exhaled air contains a	a big amount of oxygen gas				
	3. Limewater is used to o		e 134 a 15 a 16			
1 a.	4. Carbon dioxide gas do	pesn't burn and doesn't hel	p in burning. (
j.	[A] Compare between :					
	Point of comparison	Oxidation	Combustion			
	Definition :					
ſ	[B] Mention one use of each of the following :					
	1. Oxygen gas: ······					
	2 Carbon diovide das :					

Worksheet 9

V-22				
Answer	each	of the	following	questions:
	Cucii	or are	IUIIUWIIIG	questions.

	Complete the following sentences :					
	1. Nitrogen molecule consists of nitrogen atoms and its symbol is					
	exists in protein substances and is the scientist who had discovered it.					
	3. The roots of legumes contain that help these plants to produce from the atmospheric nitrogen.					
	 The percentage of nitrogen gas in air is, while the percentage of oxygen represents 					
	5gas that is called azote and gas easily dissolves in water.					
	(Leaders Sch. / Cair	ro 20	22)			
	. Nitrogen molecule consists of one nitrogen atom.	()			
	I. Nitrogen molecule consists of one nitrogen atom.	()			
1	Nitrogen molecule consists of one nitrogen atom. (Desouk Dir. / Kafr El-Sheik Nitrogen is very important gas as it forms protein substance.	h 20) 22))			
2	(Desouk Dir. / Kafr El-Sheik	()			
2	(Desouk Dir. / Kafr El-Sheik 2. Nitrogen is very important gas as it forms protein substance. 3. Oxygen reacts with nitrogen during lightning forming hydrogen peroxide.	()			

2. During lightning, nitrogen reacts with oxy	gen in the air formi	ng
carbon oxides that reaches the soil duri	(·······)	
3. Oxygen contributes to the composition of		
[B] Give reasons for :		
Nitrogen is called lifeless gas.	(Manor House	Sch. / Cairo 2020)
Legumes are rich in protein substances.		
[A] Mention one function only of :		-
Nodular bacteria :		
		(Luxor 2020)
[B] Mention the importance of nitrogen gas	in nature.	
Compare between :	Age la la	

Points of comparison	Nitrogen gas	Carbon dioxide gas	Oxygen gas
1. Percentage in air :			
2. Its symbol :			

General Exercise of the School Book



on Unit 3

1. Put () in front of the correct statements and (x) in front of the false ones and correct the false ones: 1. The nodular bacteria fix oxygen of air in the roots of leguminous plants such as beans and clover. 2. Oxygen gas occupies 78% of the atmospheric air components. 2. Justify (Give a reason for) : The clear limewater is used in detection of carbon dioxide gas. 3. Explain how you get : Oxygen gas from hydrogen peroxide. 2. Carbon dioxide gas from wood. 4. Look at the opposite figure, then answer: 1. Write what represents each label on figure : - Substance @: - Liquid (b): 2. Mention the uses of carbon dioxide gas: Carbon dioxide gas

Model Exam



on Unit 3

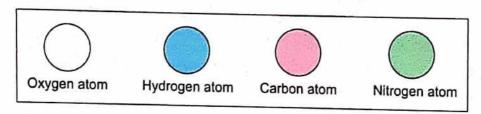
100		į
	1	ı
		I

Answer the following questions:

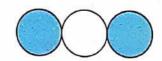
FAT		(Cd-a)
. [A]	Complete the following statements :	(6 marks)
	Oxygen is produced from process, and it represent the volume of the atmospheric air.	ts % of
	2. Legumes such as, and soybeans product the atmospheric nitrogen.	ce protein from
	3. During preparation of oxygen, hydrogen peroxide is dissociated and in the presence of manganese dioxide.	ated into
	4. Carbon dioxide is produced during and p	rocesses.
[B]	Give reasons for :	
	1. The percentage of oxygen remains constant in the atmosp	here.
	(Saint Josep	oh Sch. / Cairo 2020)
	2. Nitrogen is very important for legumes.	(Sohag 2022)
. [A]	2. Nitrogen is very important for legumes. Put (√) or (×):	(Sohag 2022)
. [A]		(6 marks)
. [A]	Put (√) or (≭): 1. Carbon dioxide gas doesn't burn and doesn't help in burni 2. Nitrogen is called azote which means gas of life.	(6 marks)
. [A]	Put (√) or (x): 1. Carbon dioxide gas doesn't burn and doesn't help in burni 2. Nitrogen is called azote which means gas of life. (Blo	(6 marks) ng. ()
. [A	Put (√) or (x): 1. Carbon dioxide gas doesn't burn and doesn't help in burni 2. Nitrogen is called azote which means gas of life. (Blo	(6 marks) ng. () om Sch. / Giza 2020) () out Dir. / Assiut 2022)
	Put (√) or (x): 1. Carbon dioxide gas doesn't burn and doesn't help in burni 2. Nitrogen is called azote which means gas of life. (Blo 3. Oxygen gas occupies about one fifth of the air volume. (Manfle	(6 marks) ng. () om Sch. / Giza 2020) () out Dir. / Assiut 2022)

Passing carbon dioxide gas in clear limewater.			
	1, 1		
		(East Mansoura Zo	one/ Dakahlia 202
[A] Write the scient	ific term :		(6 mark
		stance that builds up our b	odies.
			(
2. A gas that its r	nolecule is compos	sed of three oxygen atoms	. (
		(Future:	s Sch./ Cairo 202
3. The method th	at is used to collec	t carbon dioxide gas durin	g
its preparation			(
4. A layer in the a	atmosphere that pro	otects the Earth from harm	ful
	ing from the Sun.		0) (
[B] The shown appa the preparation of		₩ -①	
the laboratory :			-
•): 	(2)	Wate
0		vard displacement of water	. Why ?
[A] Choose the corre	ect answer :		(6 marks)
1. All the following are	from the propertie	es of nitrogen gas except	
a. it is easily soluble		1995	
c. it is colourless, ta	steless and odorle	ss. d. it is scarcely soluble	
		isgas. (Bloom	
a. oxygen	b. nitrogen		arbon dioxide
		en and elements producing	
is called			222-124-12
a. oxidation.	b. burning.	(Al Resala Sch.)	
G. OAIGEMEN.		c. respiration. d. re	eduction.

- 4. Which of the following is from the uses of carbon dioxide gas ?
 - a. Formation of ozone layer.
- b. Making dry ice.
- c. Cutting and welding of metals.
- d. Mechanical ventilation.
- [B] Look at the opposite figures, then complete the sentence under each figure; as shown in the following example:

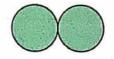




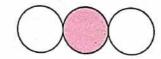


Example: Oxygen molecule.

1. molecule.







2. ···· molecule.

3. molecule.

4. molecule

Model Exam 2 on Unit 3

24

Ar	swer the following questions :
1.	[A] Complete the following sentences: (6 marks)
	Rusting of iron is due to the presence of water and gas, whereas gas is used in making soft drinks.
	2. Nitrogen gas reacts with during lightning forming
	3. Both gas and gas scarcely dissolve in water.
	4. Among the gases that don't help in burning gas and gas.
	[B] In the following figures, there are two cylinders, one of them is filled with oxygen gas, while A gas the other is filled with carbon dioxide gas.
	How can you know which cylinder contains carbon dioxide by using a lighted magnesium ribbon? Fig. (a) Fig. (b)
2.	[A] Correct the following sentences: (6 marks) 1. Oxygen and carbon dioxide gases represent most of the atmospheric air.
	Carbon dioxide gas is lighter than the air.
	3. Nitrogen easily dissolves in water.
	Ozone molecule is composed of three hydrogen atoms.
	(Al-Agoza Dir. / Giza 2022)
	The mass of a cleansing wire increases after burning.
	Although carbon dioxide has the smallest percentage in the air, but it is very important in life continuity on the Earth.

3. [/	A] Write the scientific term :		(6 marks)
	1. A molecule which is formed of to	wo hydrogen atoms o	combine with
	one oxygen atom.		()
	2. A flame which is used in welding	g and cutting metals.	()
			(Al-Agoza Dir. / Giza 2022)
	A phenomenon that occurs due dioxide gas in the atmospheric		
	4. A gas that is called azote which		
			ders New Sch. / Cairo 2020)
[E	3] What happens when ?	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2020)
	1. The nodular bacteria are not for	und in the soil.	(Bloom Sch. / Giza 2020)
	2. Carbon dioxide gas reacts with	calcium hydroxide di	ssolved in water.
4. [/	A] Choose the correct answer :	FI END	(6 marks)
	1gas is used in making s	soft drinks.	(Gharbia 2020)
	a. Hydrogen b. Oxygen		d. Carbon dioxide
	2. During the preparation of oxyge	n gas,is us	
	a. hydrogen peroxide	b. carbon dioxide	
	c. manganese dioxide	d. calcium carbor	nate (Ismailia 2020)
	3. The percentage of oxygen gas i	in the atmosphere eq	
	a. 12 % b. 78 %	c. 21 %	d. 1 %
	4. Legumes as clover benefit from	nitrogen information	of
	a. carbohydrates.	b. vitamins.	
	c. proteins.	d. fats.	
		(Al Re	esala Sch. / Kalyoubia 2020)
[E	B] Write the function of each of the		
	Oxy-acetylene flame :	(Akhnaton	Egyptian Sch. / Cairo 2020)
T.	2. Dry ice :		(Menofia 2020)
	/- /		and the state of t

Lesson 1

Worksheet 10

A	nswer each of the following questions :	
1	Complete the following sentences :	
100	The human nervous system consists of two main	systems which are
	and	
6.	2. The axon of neuron is covered with layer	called sneath.
	The outer surface of the two cerebral hemispher called	es is a ·········· matter
	4. The brain is composed of, , and	
	5. The central nervous system is composed of	and the spinal cord.
		(Ismailia 2020)
2.	[A] Give reasons for :	
	The presence of the brain inside the skull.	(Leaders New Sch./ Cairo 2020)
	2. Damage of medulla oblongata leads to deat	h. (Genius Sch. / Giza 2022)
	3. Dentrites extend from the neuron's body. [B] Put (✓) or (≭):	
	Medulla oblongata lies at the back area of the	brain below the two cerebral
	hemispheres.	()
	Cerebellum controls the voluntary movements	s in the human body. (
	3. The cell body of neuron contains a nucleus, c	ytoplasm and a plasma
	membrane.	
	In the cerebral hemispheres, the gray matter i matter.	s surrounded by the white
m		
3.		
	1. The two cerebral hemispheres :	(South Sinai 2020)
	2. Cerebellum :	
	Z, Cerebellum .	(Menofia 2020)
	3. Medulla oblongata :	(Saint Joseph Sch. / Cairo 2020)
		Isaint Joseph Sch / Cairo 2049

	[B] Write the scientific term :
	1 The building unit of the nervous system. (
	(Futures Sch. / Calro 2020)
	2. It is a nerve block containing millions of neurons.
	3. A cylindrical axis covered with a fatty layer called myelin sheath.
	()
	(6 th of October Dir. / Giza 2022)
Л	[A] Locate each of the following parts in the human body :
· .	
	1. The cerebellum :
	O. The seashed cortox:
	2. The cerebral cortex :
	3. The medulla oblongata :
	4 The Basin :
	4. The brain :
	[B] Choose the correct answer:
	1connects the brain with the spinal cord.
	a. Gerebellum
	c. Medulla oblongata d. Axon (East Mansoura Zone / Dakahlia 2020)
	2. The system interprets the external stimuli and makes the body
	responds to them.
	a. respiratory b. digestive c. circulatory d. nervous
5	Look at the following figure, then answer: (Leaders New Sch. / Cairo 2020)
U.	
	1. Label the figure :
	0
	②
	3
	① ② ③
	⑤
	⑥
	2. This figure shows the structure of cell which is the basic structure unit
	of system.
	3. What is the function of part number ① ?

Lesson 1

Worksheet 11

An	swer	each	of	the	following	questions	•
	0.755		U,	uic	TOHOWING	questions	•

Choose the correct answer:		
1. All the following are examples for the r	eflex action excep	ot
a. helping in the inhalation and exhala	tion during breath	ing.
 b. trying balance during sliding down. 		
c. secreting saliva when smelling good	food.	
d. withdrawing hand on touching a pla	nt with sharp thor	ns.
2. The gray matter in the spinal cord app	ears in the shape	of letter ·····
a. H b. Y	c. F	d. A
3is responsible for delivering the	nerve messages	from the body organs
to the brain and vice versa.		
a. Cerebellum b. Cerebrum	c. Skull	d. Spinal cord
The centers of the five senses locate in	n the	
 a. two cerebral hemispheres. 	b. spinal cord.	
c. medulla oblongata.	d. cerebellum.	
Peripheral nervous system consists of	pairs of ne	erves.
a. 31 b. 21	c. 12	d. 43
[A] What happens when ?		
In wildt happone mien		
	ry day. (Akhnaton	Egyptian Sch. / Cairo 2020)
Drinking a lot of tea and coffee eve	ry day. (Akhnaton i	Egyptian Sch. / Cairo 2020)
1. Drinking a lot of tea and coffee eve		
Drinking a lot of tea and coffee eve		
1. Drinking a lot of tea and coffee eve		
1. Drinking a lot of tea and coffee eve	nt thorns.	
Drinking a lot of tea and coffee eve Z. Your finger gets pricked by the plan [B] Complete the following sentences:	nt thorns.	
Drinking a lot of tea and coffee eve	nt thorns.	irs of cranial nerves
Drinking a lot of tea and coffee eve 2. Your finger gets pricked by the plan [B] Complete the following sentences: 1. The peripheral nervous system con and pairs of spinal nerves. 2 and are from the bad	sists of pa	irs of cranial nerves (Qena 2020) s a result of addiction.
Drinking a lot of tea and coffee eve Z. Your finger gets pricked by the plan [B] Complete the following sentences: 1. The peripheral nervous system con	sists of pa	irs of cranial nerves (Qena 2020) s a result of addiction.

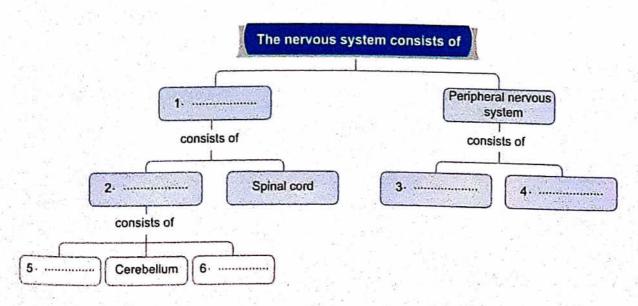
3. [A] Write one function of each of the following :

	1. Spinal cord :	(Futures Sch. / C	Cairo 20	020)
	2. Peripheral nervous system :	y * * * * *	**********	•••••
[B] Put (✓) or (≭) :			
	 There are 10 pairs of nerves come out of the binerves. 	rain known as the c	ranial	:780
	The spinal cord is responsible for the reflex act	ions in the human b	ody.)
	(6th)	of October Dir. / Giza 20)22) ()
	3. To keep your nervous system healthy, you shou	uld increase the inta	ke of	
	stimulants.		. ()
[A]	Give reasons for :			

- 1. The spinal cord is surrounded by the vertebrae of the backbone.
- 2. The withdrawal of the hand quickly when it suddenly touches a hot surface.

(Manarat Al Farouk Islamic Sch. / Cairo 2020)

[B] Complete the following diagram:



[A] Write the scientific term :	
Spontaneous response from the body to different stimuli. (.)
(Akhnaton Egyptian Sch. / Cairo 202	(0)
2. The organ that is responsible for the reflex actions in the human body.	•
(Saint Joseph Sch. / Cairo 2020) (.)
3. A group of nerves which emerges from the central nervous system.	•
()
[B] Look at the opposite figure, then complete :	
1. This figure represents the structure of	
2. Label the figure :	
(a) (b)	•
[C] How to maintain the human nervous system? (Futures Sch. / Cairo 2020	0)
(two points only)	
1	••
2	•

LIND

Lesson 2

Worksheet 12

WUI KSHEEL IZ	
Answer each of the following questions :	
1. Complete the following sentences :	
1. The axial skeleton consists of and	*************
2. Knee joint is from joints, while hip joint is from	(Manor House Sch. / Cairo 2020
	t Mansoura Zone / Dakahlia 2020
The backbone is related to theskeleton, who to theskeleton.	ile humerus bone is related
The ribcage consists of pairs of ribs.	
5. The human locomotory system consists of	and
	(Manor House Sch. / Cairo 2022
[A] Give reasons for :	
The presence of cartilages between vertebrae of cartilages.	of the backbone.
2. The ribcage surrounds the heart and lungs.	(Damietta 2020)
[B] Put (√) or (x):	
Wrist joint is from freely movable joints.	
2. The backbone is composed of 31 vertebrae.	
3. The first 10 pairs of ribs are connected to the ste	ernum.
A B C A B C C C C C C C C C C C C C C C	Annual Control of the
[A] Write one function of each of the following:	
1. The skull:	(Leader Sch. / Cairo 2022,
2. The vertebral column :	
3. The upper limbs :	
c. The apper limbs .	(Menofia 2020)

[B] Match:

(A)	(B)
[1] 전에 전하는 10. 7일 10 1일 하나 되었다. 12 10 10 10 10 10 10 10 10 10 10 10 10 10	a. the area of two bones meeting.
2. Slightly movable joints	b. allow movement in all directions.
3. Freely movable joints	c. allow movement in one direction only.

2.

4. [A] Compare between:

Point of comparison	Upper limbs	Lower limbs

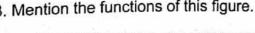
Structure :		
4 L A L Su		

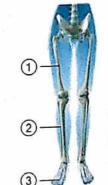
[B] Cross out the odd wo	ora	wora	WC	a	oac	tne	out	Cross	B
--------------------------	-----	------	----	---	-----	-----	-----	-------	---

- (.....) Skull – backbone – femur bone – ribcage.
- 2. Humerus bone hand bones forearm bones vertebral column.
- 3. Shoulder joint knee joint wrist joint thigh joint. (.....)
- 4. Ribcage femur bone shaft bones foot bones. (.....)

5. Examine the opposite figure, then answer: (Akhnaton Egyptian Sch./ Cairo 2020)

- 1. The figure represents the
- 2. Label the figure:
 - ①
 - ②
 - ③
- 3. Mention the functions of this figure.





(.....)

General Exercise of the School Book



on Unit 4

l.	Choose the correct answer	r:	
	1. Myelin sheath surrounds	the	
	a. nerve cell axon.	b. cerebellum.	c. spinal cord.
	2. Reflex action takes place	through the	
	a. medulla oblongata.	b. cerebral hemispheres.	c. spinal cord.
	3. The joint is the location of	meeting of	
	a. two bones.	b. a muscle with a bone.	c. two muscles.
	4. Skull joints are		
	a. immovable.	b. slightly movable.	c. free movable.
2.	Give the scientific term for	each of the following state	ements :
	1. The building unit of nervo	us system.	· ()
	2. The organ which consists surrounded with a white m	5 AT 185	matter ()
5. 115	3. The automatic body response	nse towards different stimuli.	
	4. The skeleton which includ	es the upper and lower limbs	. ()
3.	Mention the location of the	following parts in human I	body:
	Medulla oblongata.		
	2. The cerebellum.		
	3. The H-shaped gray matter		
	4. The spinal cord.		

Cerebellum.	
Cerebellum.	
Joints.	
301110	
. Cerebral hemispheres.	
. Ribcage.	
. Mibougo.	
	A Charles and Assembly his book of
Give reasons for :	
	sudden touching thorns of a plant.
. The rapid withdrawal of the hand or	I sudden touching thems of a plant
	The state of the s
. Damage of medulla oblongata may	lead to death.

Model Exam



on Unit 4

24

Answer the following questions:

1.	[A] Complete the following statements : (6 marks)
	1. brain consists of cerebrum , and and
	(Leaders New Sch. / Cairo 2020)
	The backbone consists of
	 The outer surface of the two cerebral hemispheres is a matter, while the outer surface of the spinal cord is a matter.
	The bones of lower limbs are connected to ——— bones, while the bones of upper limbs are connected to ——— bones. (Menofia 2020)
	[B] From the opposite figure : (Bloom Sch./ Giza 2020)
	1. What is the name of labeled part (a) ?
	2. Determine its function.
2.	[A] Choose the correct answer: (6 marks)
	All the following are ways to maintain the health of the nervous system except
	a. staying away from tranquilizers. b. keep close to computer. c. staying away from pollution. d. doing physical exercises.
	The peripheral nervous system consists of
	a. 31 pairs of cranial nerves and 12 pairs of spinal nerves.
	b. 12 pairs of cranial nerves and 31 pairs of spinal nerves.
	c. 31 pairs of spinal nerves only.
	d. 12 pairs of cranial nerves only.
	3is responsible for reflex action. (Bloom Sch./ Giza 2020)
	a. Cerebellum b. Spinal cord
	c. Medulla oblongata d. Cerebrum

4. The first 10 pairs of ribs are connected to the bone.

c. sternum

b. femur

a. humerus

2. The ribcage surrounds both the heart and the lungs.			
			•••
[A] Write the type of each of the following joints :		(6 m	aı
(Al Resala :	Sch./ Kaly	oubia 2	20
1. Shoulder joint.	(••••
2. Skull joints.	(•••
3. Elbow joint.	(•••
4. Wrist joint.	(•••••	•••
[B] What is meant by ?			
1. The joint :			
		•••••	
2. Immovable joints :			
2. Immovable joints :			
2. Immovable joints :		(6 ma	arl
2. Immovable joints :		(6 ma	arl
2. Immovable joints :		(6 ma	ari
2. Immovable joints : [A] Put (✓) or (≭): 1. The cerebellum regulates heartbeats.		(6 ma	arl
 2. Immovable joints: [A] Put (√) or (≭): 1. The cerebellum regulates heartbeats. 2. The outer matter of spinal cord has the shape of letter (H). 		(6 ma	arl
 2. Immovable joints: [A] Put (√) or (≭): 1. The cerebellum regulates heartbeats. 2. The outer matter of spinal cord has the shape of letter (H). 3. The central nervous system consists of cranial nerves and 		(6 ma ((arl
 2. Immovable joints: [A] Put (√) or (≭): 1. The cerebellum regulates heartbeats. 2. The outer matter of spinal cord has the shape of letter (H). 3. The central nervous system consists of cranial nerves and spinal nerves. 4. The axon of the nerve cell is surrounded by a fatty layer. 		(6 ma	arl
 2. Immovable joints: [A] Put (√) or (≭): 1. The cerebellum regulates heartbeats. 2. The outer matter of spinal cord has the shape of letter (H). 3. The central nervous system consists of cranial nerves and spinal nerves. 		(6 ma	ari
 2. Immovable joints: [A] Put (√) or (x): 1. The cerebellum regulates heartbeats. 2. The outer matter of spinal cord has the shape of letter (H). 3. The central nervous system consists of cranial nerves and spinal nerves. 4. The axon of the nerve cell is surrounded by a fatty layer. [B] What happens when? 1. There is no backbone. 		(
 Immovable joints: Put (✓) or (✗): The cerebellum regulates heartbeats. The outer matter of spinal cord has the shape of letter (H). The central nervous system consists of cranial nerves and spinal nerves. The axon of the nerve cell is surrounded by a fatty layer. What happens when ? There is no backbone. 		(***

Model Exam

2

on Unit 4

24

Answer the following questions :

1.	[A]	A] Complete the following sentences :	
1,500			(6 marks)
		The nerve cell consists of two main parts which are There are	and
		There are pairs of ribs in the ribcage, whereas pairs of nerves come out of the spinal cord.	tnere are
		The brain is protected by, while the spinal cord i by	s protected
		The backbone contains between its to friction.	prevent their
	[B]	B] What happens when ?	
		The medulla oblongata is damaged. (Leaders)	New Sch. / Cairo 2020)
		There are no cartilages between vertebrae of the backbe	
			Sch. / Kalyoubia 2020)
2.	[A]	A] Correct the following sentences :	(6 marks)
	*	Upper limbs in human skeleton are connected to the pel	vic bones.
		2. The axon of neuron ends with nerve endings called deno	drites.
		Cerebrum regulates the movement of the respiratory sys breathing.	
4		4. The ribcage protects the stomach and the heart.	
	[B]	B] Give reasons for :	
		You must avoid using tranquilizers and stimulants. (EI-A)	gamy Dir. / Alex. 2022)
		2. Shoulder joint is a freely movable joint.	
0			

1				
3.	[A] Write the scientific ter	m:		(6 marks)
	 The main control cen 	ter in the huma		nt Said 2020) ()
	2. A part of the nervous	system that is	responsible fo	r the reflex action.
			(EI-Helmia Sch.	/ Callo 2022) ()
	3. The location at which	bones meet ea	ach other.	(
			(M	anor House Sch. / Cairo 2022)
	4. The part of the brain	that controls th	e involuntary p	processes
	in the body.			()
	[B] Compare between :			(Ismailia 2020)
	Point of comparison	Cranial	nerves	Spinal nerves
	Definition :			
4.	[A] Choose the correct ar	iswer:		(6 marks)
	1. The backbone consis	sts ofv	ertebrae.	(Kafr El-Sheikh 2020)
	a. 32 b.	33	c. 23	d. 12
	2is responsib	le for regulating	the movemen	nts and functions of
	the digestive system.			
	a. Spinal cord		b. Cerebellu	ım
	c. Cerebrum		d. Medulla d	oblongata
	3. Which of the following	g is from joints	?	
	a. Femur. b.	Shaft.	c. Pelvic.	d. Knee.
	 The organ that is responded intense light is called 		creasing the si	ze of eye pupil on
	a. neuron. b.	cerebellum.	c. spinal cor	d. d. axon.
	[B] Look at the opposite fi	gure, then an	swer:	(Port Said 2020)
	1. Label the numbered b			(3)
	① b	one.		
	② b			0
	Write the function of p	art ③.		
			······································	2
				(A)

PART

Final Revision



Unit One: Force and Motion.

Unit Two: Thermal Energy.

Unit Three: The Atmosphere.

Unit Four: Structure and Function.



Final Revision 1

Definitions

Item	Definition
1. Mass :	It is the amount of matter in an object.
2. Gram (gm.) :	It is one of the measuring units of mass that nearly equals the mass of one paper clip.
3. Kilogram (kg.) :	It is one of the measuring units of mass that equals the mass of one liter of distilled water.
4. Weight :	It is the force by which a body is attracted to the Earth. or It is the gravitational force by which a body is attracted to the Earth.
5. Newton :	It is the measuring unit of weight which is almost equal to the weigh of an object on the Earth's surface whose mass is 100 grams.

Importance or use

Item	Importance or use	
1. Gram (gm.) :	It is a unit used to measure small masses such as jewellery.	
2. Kilogram (kg.):	It is a unit used to measure large masses as fruits and vegetables.	
3. Balance scale and one-arm scale with a pointer :	It is a device that is used to measure the large masses as cheese and vegetables.	
4. Sensitive two-arms scale and one-arm digital scale :	It is a device that is used to measure small masses as gold and chemicals.	
5. Spring scale :	It is a device that is used to measure the weight of any object.	
6. The Earth's gravity :	It attracts all the objects towards the center of the Earth.	

Give reasons for

1. The mass of a body on the Earth's surface equals the mass of the same body on the moon's surface.

Because the mass of the body is a fixed value and it doesn't change by changing the place.

2. Object's falling downward the Earth's surface.

Due to the effect of weight (gravitational force).

3. The balance scale should be placed horizontally on a stable shelf.

To avoid any vibration of the balance scale.

4. The force of the moon's gravity is less than the Earth's gravity.

Because the mass of the moon is less than the mass of the Earth, so the gravity of the moon is less than that of the Earth.

5. The weight of a person on the Earth's surface is larger than that on the moon's surface.

Because the Earth has greater mass and gravitational force than the moon.

6. The weight of a person in a flying balloon is smaller than that on the Earth's surface.

Because the gravitational force of the Earth to the person in the balloon decreases as we go away from the center of the Earth.

The weight of an object changes according to the planet that the object exists on.

Because the gravity of a planet depends on its mass, so the weight of any object will change from a planet to another.

8. The wire of spring scale expands when a body is hanged to it.
Because the gravitational force of the Earth attracts the hanged body downward, that causes the expand of the wire of spring scale.

The weight of an object is affected by its mass.
 Because as the object's mass increases, its weight increases and vice versa.

4 What happens when ...?

1. You hang a body in the bottom hook of the spring scale.

The body pulls the wire of the spring downwards and the reading of the pointer increases.

2. The mass of an object increases.

Its weight increases.

3. The mass of an object decreases to half.

The weight of this object decreases to half.

4. The mass of the planet where the object exists increases.

The weight of this object increases.

5. There is no gravity on the Earth's surface.

All objects on the Earth's surface don't have weight.

You measure the weight of a toy car on the Earth's surface, then measure its weight on the moon's surface.

The weight of the toy car on the moon's surface equals one sixths $(\frac{1}{6})$ of its weight on the Earth's surface.

The distance between a person in a balloon and the center of the Earth increases.

The weight of the person decreases as the gravitational force of the Earth for this person decreases.

8. Transfering a body of 60 Newton weight from the Earth's surface to the moon's surface.

The weight of the body decreases to 10 Newton.

5 Comparisons

1. Compare between balance scale and sensitive two-arms scale.

Point of comparison	Balance scale	Sensitive two-arms scale
Its use :	It is used to measure the large masses as cheese and vegetables.	It is used to measure the small masses as gold and chemicals.

2. Compare between mass and weight.

Points of comparison	Mass	Weight
1. Definition :	The amount of matter in an object.	The gravitational force by which a body is attracted to the Earth.
2. Measuring unit :	Kilogram or gram.	Newton.
3. Measuring device :	Balance scale.Sensitive two-arms scale.One-arm digital scale.One-arm scale with a pointer.	Spring scale.
4. The direction of its effect :	It has no direction.	Its effect is always directed towards the center of the Earth (downward).
5. The effect of changing the place :	Constant. (It does not change with changing the place).	Variable. (It changes with changing the place).

Final Revision

Activities



To know how to measure the mass of a liquid by a digital scale:



- Bring an empty beaker and record its mass by using the digital scale (M1).
- 2. Put an amount of liquid (that needed to be measured) in the beaker, then record the total mass (M₂).
- 3. Subtract M₄ from M₂ to obtain the mass of the liquid only.



digital scale



Observation & Conclusion:

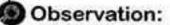
The mass of liquid = The mass of the beaker with liquid (M2) - the mass of the empty beaker (M₄).

Activity 2

To know how to measure the weight of any object by the spring scale:

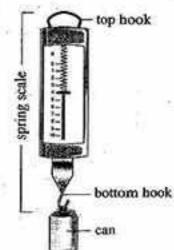


- Hold the spring scale from its top hook. then hang the body (as a can) in its bottom hook.
- Let the object go down slowly.



The can pulls the spring downwards and the reading of the pointer increases.

Wait until the object becomes stable to record the reading which refers to the object's weight.



Conclusion:

The weight of any object can be measured by the spring scale by determining the extension of its spring.

الحاصر علوم للات (Notebook) / ۱ ب/ تيره ١ (م: ٨)





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Important laws and solved problems

- Object's weight on the Earth's surface (Newton) = its mass $(kg.) \times 10$
- Mass of any object on the Earth's surface = Mass of the same object on the moon's surface.
- Object's weight on the moon (Newton) = its weight on the Earth (Newton) $\times \frac{1}{6}$

Example : if the object's mass = 60 kg on the Earth, calculate :

- (a) Its mass on the moon's surface.
- (b) Its weight on the Earth's surface.
- (c) Its weight on the moon's surface.

Answer:

2+2.

- (a) Its mass on the moon's surface = Its mass on the Earth's surface = 60 kg.
- (b) Its weight on the Earth's surface = Its mass × 10 = 60 × 10 = 600 Newton.
- (c) Its weight on the moon's surface = its weight on Earth's surface × 1/6 = $600 \times \frac{1}{6}$ = 100 Newton.

Important Points

- The types of scales are two-arms scale and one-arm scale.
- Two-arms scale is divided into balance scale and sensitive two-arms scale. while one-arm scale is divided into one-arm digital scale and one-arm scale with a pointer.
- The weight of any object is affected by three factors which are :
 - 1. The object's mass, where: Weight of any object Increases by increasing its mass.
 - The planet (place), where the object exists: When the mass of the planet Increases, its gravitational force for an object increases, so the weight of the object increases.
 - 3. The distance between the object and the center of the planet, where: The weight of any body decreases when the distance between the body and the center of the planet increases as the gravitational force decreases.



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Example: If the object's mass = 60 kg. on the Earth, calculate:

- (a) Its mass on the moon's surface.
- (b) Its weight on the Earth's surface.
- (c) Its weight on the moon's surface.

Answer:

- (a) Its mass on the moon's surface = Its mass on the Earth's surface = 60 kg.
- (b) Its weight on the Earth's surface = Its mass \times 10 = 60 \times 10 = 600 Newton.
- (c) Its weight on the moon's surface = Its weight on Earth's surface $\times \frac{1}{6}$

=
$$600 \times \frac{1}{6}$$
 = 100 Newton.

8 Important points

- The types of scales are two-arms scale and one-arm scale.
- Two-arms scale is divided into balance scale and sensitive two-arms scale, while one-arm scale is divided into one-arm digital scale and one-arm scale with a pointer.
- The weight of any object is affected by three factors which are :
- The object's mass, where:
 Weight of any object increases by increasing its mass.
- 2. The planet (place), where the object exists:
 When the mass of the planet increases, its gravitational force for an object increases, so the weight of the object increases.
- 3. The distance between the object and the center of the planet, where:
 The weight of any body decreases when the distance between the body and the center of the planet increases as the gravitational force decreases.



Final Revision 2

1 Definitions

Item	Definition	
1. Heat :	It is a form of energy that transfers from the higher temperature object to the lower temperature object.	
2. Temperature :	It is the degree of hotness or coldness of a body.	
3. Heat conductors :	They are the materials that let heat flow through.	
4. Heat insulators :	They are the materials that do not let heat flow through.	
5. Thermometer :	It is a device that is used to measure the temperature.	
6. Medical thermometer :	It is the thermometer that is used to measure the temperature of the human body.	
7. Celsius thermometer :	It is the thermometer that is used to measure the temperature of liquids.	
8. Zero°C :	It is the melting point of ice or the freezing point of water.	
9. 100°C :	It is the boiling point of water.	

2 Importance or use

Item	Importance or use	
1. Heat :	 It is important in our daily life in : a. Warming houses. b. Cooking. c. Heating water. d. Drying washed clothes. It has many usages in industry as it is used in making and processing food, glass, paper, textiles. 	
2. Air :	It is used as a heat insulating material in making the insulating glass windows.	
3. Aluminium and stainless steel (good conductors of heat):	They are used in making : a. Cooking pots. b. Kettles that are used in houses and factories.	

4. Plastic and wood (bad conductors of heat):	They are used in making the handles of : a. Cooking pots. b. Electric iron. c. Kettles.	
5. Wool (bad conductor of heat) :	It is used in making : a. Heavy blankets. b. Woolen clothes.	
6. Thermometers :	They are used to measure the temperature.	
7. Medical thermometer :	It is used to measure the temperature of human body	
8. Celsius thermometer :	It is used to measure the temperature of liquids.	
9. The constriction in the medical thermometer:	It prevents mercury from returning back to the bulb quickly in order to read the measurement easily.	
10. Ethyl alcohol :	It is used to sterilize the medical thermometer.	
11. Mercury in thermometers: It expands and contracts regularly according the change in temperature, in order to determine temperature of objects.		

3 Give reasons for

1. Heat is an important form of energy in our daily life.

Because it is used in:

- Warming houses.

- Cooking.

Heating water.

- Drying washed clothes.

2. Heat has countless usages in industry.

Because it is used in making and processing food, glass, paper and textiles.

Copper, iron and aluminium are good conductors of heat. Because they allow heat to flow through.

- Wood, glass, plastic and paper are bad conductors of heat (insulators).
 Because they don't allow heat to flow through.
- Wood is a heat insulator, while copper is a heat conductor.
 Because wood doesn't let heat flow through, while copper lets heat to flow through.

6. In the insulating glass window, there is a space filled with air between the two glass sheets.

To prevent the leakage of heat.

7. Leaving spaces between the railway bars.

To avoid train accidents where iron is a good heat conductor that expands and twists by heat.

8. Plastic differs from copper in conducting heat.

Because plastic doesn't let heat flow through, while copper lets heat flow through.

9. Copper differs from iron and aluminium in conducting heat.

Because copper conducts heat faster than aluminium and iron.

10. Cooking utensils are made of stainless steel or aluminium.

Because they let heat flow through as they are good conductors of heat.

11. The handles of cooking utensils are made of wood or plastic.

Because they don't let heat flow through as they are bad conductors of heat.

12. Aluminium and stainless steel are very important heat conductors.

Because they are used in making cooking pots (utensils) and kettles that are used in houses and factories.

- 13. We use the heat insulators as wool in making heavy blankets and woolen clothes.
 - It is necessary to wear woolen clothes in winter.

To keep our bodies warm as they prevent the leakage of heat.

14. Cooking pots are made of aluminium, while their handles are made of plastic or wood.

Because aluminium is a good conductor of heat, while plastic and wood are bad conductors of heat.

15. We can't measure the temperature of objects by touching.

Because the sense of touching helps us to know if the object is hot or cold only, but it can't measure the temperature accurately.



16. There is a constriction in the medical thermometer.

To prevent mercury from returning back to the mercury bulb quickly in order to read the measurement easily.

17. The medical thermometer must be put in ethyl alcohol before using.

To sterilize the medical thermometer before using.

18. We must shake the medical thermometer well before using.

To force the mercury back to the mercury bulb.

19. The thermometer must be kept out the reach of children.

Because mercury inside the thermometer is a toxic substance.

20. The medical thermometer can't measure the temperature of iced water.

Because the scale of the medical thermometer ranges from 35°C to 42°C and the temperature of iced water is zero°C.

21. We can't measure the boiling point of water by using the medical thermometer.

Because the scale of the medical thermometer ranges from 35°C to 42°C, while the temperature of boiling water is 100°C, so the medical thermometer will break.

22. Mercury is used in making thermometers.

Because mercury:

- a. is a liquid metal that can be seen easily through the thermometer glass.
- b. is a good conductor of heat.
- c. is a regular expanding material.
- d. doesn't stick to the walls of the capillary tube.
- e. gives a wide range to temperature measurement.
- 23. Mercury gives a wide range to measure the temperature.

Because it remains in a liquid state between (- 39°C) and (357°C).

24. The idea of making thermometers depends on changing the volume of liquid by changing temperature.

Because liquid expands by heating and contracts by cooling.

4 What happens when...?

1. You hold a piece of ice in your hand.

I feel cold due to the transfer of heat from my hand to the piece of ice.

2. You touch a hot cup of tea.

I feel hot due to the transfer of heat from the hot cup of tea to my hand.

3. You touch one end of a copper rod, where the other end is exposed to the flame of a candle.

I feel hot, because copper is a good conductor of heat.

 You touch the end of a glass rod, where the other end is exposed to the flame of a candle.

I don't feel hot, because glass is a bad conductor of heat.

5. Two bodies have the same temperature touch each other.
Heat doesn't transfer from one body to the other as they have the same temperature.

6. There are no spaces between the railway bars.

Train accidents will occur.

7. The handles of kettles and cooking utensils are made of stainless steel.

We can't hold them with our hands as stainless steel is a good conductor of heat.

8. All substances that the man uses are good conductors of heat.

We can't make handles of cooking pots and also we can't make heavy clothes that keep us warm in winter.

9. A medical thermometer is put in boiled water.

The medical thermometer will be damaged, because the boiling point of water is 100°C.

10. There is no constriction above the mercury bulb in the medical thermometer.

The mercury will return back quickly to the mercury bulb before determining the temperature reading.

11. Water is used instead of mercury in making thermometers.

The thermometer can't measure the temperature accurately, because water is not a regular expanding material.

12. We don't shake the medical thermometer well before use.

We can't measure the temperature accurately.

13. The medical thermometer is not sterilized before use.

We may be infected with some diseases.

14. Increasing the temperature of mercury.

Mercury will expand regularly.

5 Comparisons

1. Compare between heat conductors and heat insulators.

Points of comparison	Heat conductors	Heat insulators
1. Definition :	They are materials that let heat flow through.	They are materials that don't let heat flow through.
2. Examples :	Copper, aluminium, iron and stainless steel.	Glass, wood, paper, plastic wool, air and rubber.
3. Uses :	They are used in making: 1. Cooking pans (utensils). 2. Kettles (boilers).	They are used in making: 1. The handles of: - Cooking utensils. - Electric iron. - Kettles.
		Heavy blankets and woolen clothes.

2. Compare between Celsius thermometer and medical thermometer.

Points of comparison	Celsius thermometer	Medical thermometer
1. Structure :	a. Transparent thick glass to b. Very thin capillary tube.	
	c. Mercury bulb that is filled with mercury.	
2. Range of scale :	From 0°C to 100°C.	From 35°C to 42°C.
3. Constriction :	Absent.	Present.
4. The used liquid :	Mercury.	Mercury.
5. Usage :	It is used to measure the temperature of liquids.	It is used to measure the temperature of the
		human body.

6 Activities

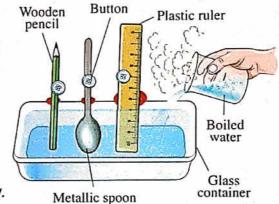


To show the ability of materials in conducting heat.



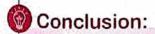
Steps:

- Stick a button on a ruler, a spoon and a pencil using molten wax, then fix them at one edge of the container using clay.
- Pour boiled water in the container to be half filled.



Observation:

The button falls from the metallic spoon only.



Materials can be classified into heat conductors and heat insulators.

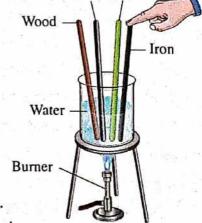


😂 Steps:

- Bring four rods nearly equal in length and thickness from wood, aluminium, plastic and iron.
- 2. Put the beaker containing water on the burner.
- 3. Put the four rods inside the hot water.
- 4. Touch the end of each rod with your finger.

Observations:

- 1. You feel hot when touching aluminium and iron rods.
- 2. You don't feel hot when touching wood and plastic rods.



Aluminium Plastic

Conclusion:

Materials can be classified into heat conductors and heat insulators.

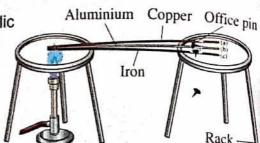


Activity 2 To show that metals are different in conducting heat.



Steps:

- Stick an office pin on one tip of each metallic rod (a, b, c) using molten wax.
- Put the three metallic rods on the two racks as shown in the figure.



Observation:

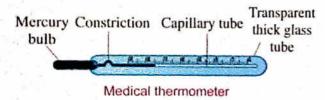
The pin (a) falls first, then the pin (b) and at the end the pin (c).

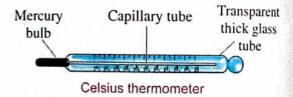
Conclusion:

Different metals differ in conducting heat, where:

- · Copper conducts heat faster than aluminium.
- · Aluminium conducts heat faster than iron.

7 Important devices





8 Important points

- Materials are divided according to the conductivity of heat into good conductors of heat (heat conductors) and bad conductors of heat (heat insulators).
- Copper, iron, stainless steel and aluminium are good conductors of heat.
- Wood, glass, plastic, rubber, paper, wool and air are bad conductors of heat.
- All metals are good conductors of heat.
- Metals are different in conducting heat, which means that some metals conduct heat faster than the other.
- Copper conducts heat faster than aluminium, while aluminium conducts heat faster than iron.
- In medical thermometer, each degree is divided into 10 parts, so each part equals $\frac{1}{10}$ degree.

- In Celsius thermometer, the distance between zero°C and 100°C is divided into 100 parts, where each part equals one degree.
- How to use the medical thermometer to measure your body temperature :
 - 1. Sterilize the medical thermometer using ethyl alcohol.
 - 2. Dry the thermometer very well using a tissue paper.
 - 3. Shake the thermometer well until the mercury returning back to the bulb.
 - 4. Put the thermometer under your tongue for a minute.
 - 5. Get the thermometer out from your mouth, then record the temperature reading.
 - 6. Sterilize the thermometer using ethyl alcohol and put it in its box.
 - Don't seize the medical thermometer firmly with your teeth in order not to be broken because mercury is a toxic substance.
 - The normal temperature of the healthy person is 37°C.
 - While recording the temperature, the Celsius thermometer must be vertical and the direction of sight must be perpendicular to the thermometer.
 - The Swedish scientist "Anders Celsius" created the Celsius scale in 1742.
 - Mercury remains liquid between two degrees temperature which are (- 39°C) and (357°C) and this gives a wide range of temperature measurement.



Final Revision 3

1 Definitions

Item	Definition	
1. The atmosphere :	It is a mixture of different gases surrounding the Earth.	
2. Catalyst :	It is a chemical substance that remains without any change in its quantity and structure during the chemical reaction.	
3. Ozone :	A gas that its molecule is composed of three oxygen atoms.	
4. Oxidation :	It is a slow combination between oxygen and an element in the presence of moisture (water).	
5. Burning (combustion):	It is a rapid combination between oxygen and an element producing heat and light.	

2 Importance or use

Item	Importance or use
1. The atmosphere :	 It protects the Earth by absorbing ultraviolet radiation coming from the outer space. It adjusts the temperature of the Earth's surface.
2. Hydrogen peroxide :	It is used to prepare oxygen, where it dissociates in the presence of manganese dioxide into oxygen and water
	 It is important for all living organisms as it is used in: Respiration and combustion of food inside the living cells to produce energy necessary for all vital processes. Formation of water that is composed of one oxygen atom combines with two hydrogen atoms.
3. Oxygen :	 It forms ozone layer (O₃) that protects the Earth from harmful radiations that come from the Sun. It is compressed in iron cylinders to be used: In mechanical ventilation for patients who suffer from breathing difficulties. During surgeries.
	 During strigeries. During diving and climbing mountains. It combines with acetylene gas to produce oxy-acetylene flame which is used in cutting and welding metals.

4. Limewater :	It is used to detect the presence of carbon dioxide gas.
5. Carbon dioxide :	 It is used in making dry ice which is used in refrigeration. It is used in extinguishing fires. It is used in making soft drinks. It is used in making bubbled and tasty bread when adding yeast to dough. It is necessary for photosynthesis process of green plants to produce food and oxygen gas.
6. Nodular bacteria :	They take the atmospheric nitrogen and convert it into protein.

3 Give reasons for

1. Although oxygen is consumed during respiration, its percentage remains stable in the atmosphere.

Because the consumed oxygen gas during respiration and combustion processes is compensated by the green plants during photosynthesis process.

Although smoke and dust particles are considered as air pollutants, they have an important role in the formation of rains and snow.

Because they help in the condensation of water vapour in air and falling rains or snow.

- 3. The atmosphere has a great importance for the continuity of life on the Earth.
 - Because the atmosphere:
 - Absorbs ultraviolet radiations coming from the outer space.
 - Adjusts the temperature of the Earth's surface.
- Oxygen is collected by displacing the water downward in the jar during preparation at the laboratory.

Because oxygen scarcely dissolves in water.

5. Manganese dioxide remains without any change in its quantity and structure during the preparation of oxygen.

Because it acts in this reaction as a catalyst.

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- 6. Manganese dioxide acts as a catalyst during the preparation of oxygen. Because it remains without any change in its quantity and structure during the chemical reaction.
- 7. When you turn a cylinder filled with oxygen over another cylinder filled with air, oxygen gas replaces the air in the lower cylinder.
 Because oxygen is heavier than air.
- A burning match is still burning when it is placed in a cylinder filled with oxygen.

Because oxygen gas helps in burning.

- 9. When you burn a ball of cleansing wire strongly, its mass increases. Because oxygen combines with iron (cleansing wire) forming iron oxide that its mass is higher than that of iron.
- Rusting of iron has many disadvantages.
 Because rusting of iron causes corrosion and damage of ironware such as bridges' pillars.
- 11. Iron nails rust when exposed to moist air.
 Because iron combines with oxygen of air in the presence of moisture (water) forming a layer of rust that causes corrosion.
- 12. Oxygen cylinders are used during climbing mountains.
 Because the percentage of oxygen gas decreases when we rise above the Earth's surface.
- 13. Oxy-acetylene flame is used for cutting and welding metals.

 Because the temperature of oxy-acetylene flame reaches 3500 °C which is sufficient to cut or weld metals.
- 14. Ozone layer is very important for the life of all living organisms. Because it protects the Earth from harmful radiations that come from the Sun.
- 15. Divers use oxygen cylinders during diving under the water surface. Because oxygen gas is necessary for respiration under the water surface.
- 16. The pillars of the bridges are isolated from the atmospheric air by paints. To protect them from iron rusting that causes corrosion and damage of the pillars of bridges.

17. The environment suffers from increasing the percentage of carbon dioxide gas in recent years.

Due to:

- The removal of forests.
- Burning massive amounts of fuel in factories and means of transport.
- 18. Cutting forests leads to the increase in the percentage of carbon dioxide gas in nature.

Because plants take carbon dioxide gas to make photosynthesis process.

19. Decreasing the green areas harm the environment.

Because this increases the percentage of carbon dioxide gas.

20. The clear limewater is used in detection of carbon dioxide gas.

Because clear limewater turns into milky when carbon dioxide gas passes through it.

21. Clear limewater becomes turbid when carbon dioxide passes in it.

Due to the formation of calcium carbonate (white ppt.) which is insoluble in water and causes the turbidity of limewater.

22. Carbon dioxide gas is collected by upward displacement of air.

Because it is heavier than air.

23. Carbon dioxide gas is not collected by downward displacement of water.

Because it easily dissolves in water.

24. Carbon dioxide is used in extinguishing some fires.

Because it doesn't burn and doesn't help in burning.

25. Burning a magnesium ribbon in the presence of carbon dioxide gas produces white and black substances.

Because it produces magnesium oxide which is a white substance and carbon (coal) which is a black substance.

26. Yeast is added to the dough on making bread.

Because by adding yeast to dough, carbon dioxide is produced during fermentation process and expanded by heat making the bread porous and tasty.

27. Photosynthesis process is important for plants and all living organisms.

Because during photosynthesis process, the plant produces food and oxygen which is necessary for respiration of all living organisms.

28. Carbon dioxide gas has a great vital importance in life continuity on the Earth's surface.

Because carbon dioxide gas is necessary for plants to make photosynthesis process to produce food and oxygen gas which is necessary for respiration of all living organisms.

29. Carbon dioxide gas has many benefits.

Because it is used in:

- Making dry ice, soft drinks and bread.
- Extinguishing fires.
- Photosynthesis process.

30. Increasing the percentage of carbon dioxide gas in air is dangerous.

Because it causes:

- Suffocation of living organisms.
- Global warming.

31. The main source of nitrogen is the air.

Because nitrogen forms 78% of the volume of atmospheric air.

32. Nitrogen is very important for legumes.

Because legumes need nitrogen gas to form protein by the help of a specific type of bacteria (nodular bacteria) that live in their roots.

33. Nitrogen contributes in the composition of all living tissues.

Because it forms protein which is necessary for building up living tissues.

34. Nitrogen is very important in the human's life.

Because it contributes in the composition of all living tissues as it forms protein substances.

35. Nitrogen is called azote which means lifeless.

Because nitrogen gas doesn't help in burning.

4 What happens when...?

1. There is no atmosphere.

- The ultraviolet radiations will reach the Earth from the outer space.
- The temperature of the Earth will be variable.

2. There is no oxygen in the atmosphere.

Living organisms cannot respire, so they will die.

3. Leaving iron nails in moist air for a long time.

Iron will combine with oxygen in the presence of moisture (water), so iron nails will rust.

4. Ozone layer is decayed.

The harmful radiations coming from the Sun will reach the Earth and cause harms to living organisms.

5. The percentage of oxygen gas in air is more than 21%

We cannot control burning processes as oxygen helps in burning.

6. A lighted magnesium ribbon is placed in a jar filled with oxygen.

Magnesium oxide which is white matter is formed.

7. The percentage of oxygen gas decreases in the atmosphere.

The living organsims can't respire and the combustion process doesn't occur.

8. Putting a burning fragment in a cylinder filled with oxygen.

The burning fragment is still burning.

9. The mass of cleansing wire before and after burning.

Its mass increases after burning due to the combination with oxygen.

10. Hydrogen peroxide is dropped over manganese dioxide.

Hydrogen peroxide is decomposed into water and oxygen gas, while manganese dioxide doesn't change in its quantity or structure.

11. The bridges' pillars are not isolated with paints.

The bridges' pillars will rust causing damage to the bridges.

12. Most forests on the Earth are removed.

The percentage of carbon dioxide gas will increase in air.

13. One carbon atom linked with two oxygen atoms.

A molecule of carbon dioxide will be formed.

14. You blow in a jar contains clear limewater.

Limewater turns into milky due to the presence of carbon dioxide in the exhaled air.

15. Dilute hydrochloric acid is dropped over calcium carbonate.

They will react together and carbon dioxide gas will evolve.

Lemon juice reacts with sodium bicarbonate.

Carbon dioxide gas is produced.

17. A lighted candle is put in a cylinder filled with carbon dioxide gas.

The lighted candle will extinguish.

18. A lighted magnesium ribbon is inserted in a cylinder filled with CO₂

Magnesium ribbon keeps burning for a short time producing magnesium oxide which is a white substance and carbon (coal) which is a black substance.

The pressure on liquefied carbon dioxide is relieved.

Dry ice is formed which is used in refrigeration.

20. Yeast is added to dough during making bread.

Carbon dioxide is produced during fermentation, so the bread becomes porous and tasty.

21. The percentage of carbon dioxide in the air increases.

It will cause global warming and suffocation of living organisms.

22. The percentage of carbon dioxide in the air decreases.

Green plants cannot make photosynthesis process, so the percentage of oxygen will decrease in the atmosphere and living organisms will die.

23. Drinking big quantities of soft drinks.

This causes osteoporosis and may cause death.

24. Nitrogen gas is not present in the atmospheric air.

The protein substance that builds up the bodies of all living organisms is not formed.

25. Oxygen reacts with nitrogen during lightning.

Nitrogen oxides are formed, where they reach the soil during raining.

26. Getting rid of nodular bacteria.

Legumes as clover, peas and soybeans can't make protein.

5 Comparisons

1. Compare between oxidation and burning (combustion).

Points of comparison	Oxidation	Burning (combustion)
1. Definition :	It is a slow combination between oxygen and an element in the presence of moisture (water).	It is a rapid combination between oxygen and an element producing heat and light.
2. Example :	Iron rusting.	Burning a piece of cleansing wire.

2. Compare between oxygen, carbon dioxide and nitrogen.

Points of comparison	Oxygen	Carbon dioxide	Nitrogen
1. Its percentage in air :	21%	0.03%	78%
2. Structure :	Its molecule is composed of two oxygen atoms linked together.	Its molecule is composed of one carbon atom linked with two oxygen atoms.	Its molecule is composed of two nitrogen atoms linked together.
3. Symbol :	02	CO ₂	N ₂
4. Properties :	 It is a colourless, tasteless and odorless gas. It scarcely dissolves in water. It doesn't burn, but it helps in burning. It is heavier than air, so it replaces air. It combines with a lighted magnesium ribbon forming magnesium oxide (white matter). 	 It is a colourless and odorless gas. It easily dissolves in water. It doesn't burn and doesn't help in burning so, it is used in extinguishing fires. It is heavier than air, so it is collected by upward displacement of air. It reacts with a magnesium ribbon forming magnesium oxide (white powder) and carbon or coal (black substance) that deposits on the wall of the cylinder. 	- It is a colourless, tasteless and odorless gas It scarcely (hardly) dissolves in water It doesn't help in burning.



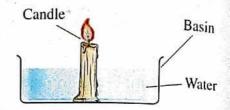


Activity 1 To show that oxygen gas helps in burning.



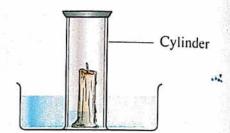
Steps:

- Fix a lighted candle inside a basin containing water.
- 2. Cover the candle with a cylinder.



Observations:

- The lighted candle extinguishes.
- A little amount of water rises inside the cylinder (Because the air inside the cylinder loses one of its components which is oxygen that is consumed by the candle during burning).





Conclusion:

Oxygen gas helps in burning.

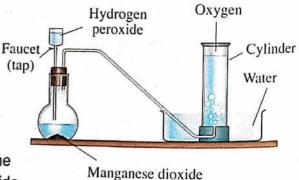


To show the preparation of oxygen in the laboratory.



Steps:

- Set up the apparatus that shown in the opposite figure.
- Pour some manganese dioxide in the flask.
- 3. Fill the funnel with hydrogen peroxide.
- Open the tap to allow the leaking of some hydrogen peroxide on manganese dioxide.



Observation:

The formation of a gas at the top of the cylinder.



Conclusion:

Hydrogen peroxide dissociates (decomposes) in the presence of manganese dioxide into water and oxygen.

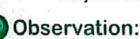


To show that carbon dioxide gas is produced during exhalation (respiration) process.



Steps:

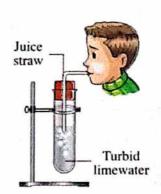
- 1. Put an amount of clear limewater in a tube.
- Blow in limewater for two minutes using the juice straw.



The clear limewater becomes turbid (milky).



- 1. Exhaled air contains carbon dioxide gas.
- 2. Carbon dioxide gas turbids the clear limewater.





To show that carbon dioxide gas is produced during combustion of a candle.

Steps:

 Put a lighted candle in a cylinder, then cover the cylinder with a glass cover.



After a while, the candle is extinguished.

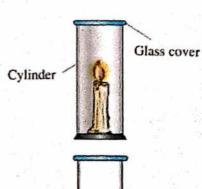
Remove the glass cover and pour a little amount of clear limewater inside the cylinder and cover it again.

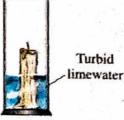


The clear limewater turns into milky (turbid).

Conclusion:

Carbon dioxide gas is produced during the combustion of a candle.





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To show that carbon dioxide doesn't burn and doesn't help in burning.

Cylinder



Step:

Turn a cylinder filled with CO₂ upside down on a lighted candle.



Observation:

The lighted candle will extinguish.



Conclusion:

Carbon dioxide doesn't burn and doesn't help in burning.



To show the preparation of carbon dioxide gas in laboratory.



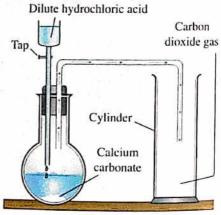
Steps:

- 1. Set up the shown apparatus as in the opposite figure.
- 2. Pour some dilute hydrochloric acid on calcium carbonate that found in the flask.



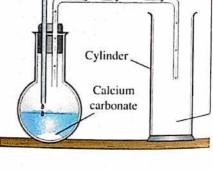
Observation:

Carbon dioxide gas evolves, then passes in the tube to be collected in the cylinder.



Conclusions:

- 1. Carbon dioxide gas is prepared by adding dilute hydrochloric acid to calcium carbonate.
- 2. Carbon dioxide gas is prepared by upward displacement of air not water, because it is heavier than air and easily dissolves in water.



7 Important points

- 1. Carbon dioxide gas and other gases (such as water vapour, argon, neon, helium and others) represent 1% of the atmosphere.
- 2. Hydrogen peroxide Manganese dioxide
 → Water + Oxygen.
- 3. Oxygen has the ability to combine directly with most elements forming oxides.
- 4. Ironware must be isolated by paints to protect them from iron rusting.
- 5. The mass of materials increases after combination with oxygen.
- Oxygen was discovered in China in 800 B.C., then it was re-discovered by Joseph Priestley in August 1774.
- 7. Antoine Lavoisier gave oxygen its name in 1778.
- 8. Lemon juice reacts with sodium bicarbonate to produce carbon dioxide gas.
- 9. The atmospheric air is the main source of nitrogen on the Earth's surface.



Final Revision 4

1 Definitions

ltem	Definition	
1. Nervous system :	It is a communication and controlling system that regulates all the vital operations of the human body.	
2. Nerve cell (neuron) :	It is the building (or basic structure) unit of the nervous system.	
3. Dendrites :	They are branches extending from the neuron's body.	
4. The axon :	It is a cylindrical axis covered with a fatty layer called myelin sheath.	
5. The brain :	It is a nerve block containing millions of nerve cells and it is the main control center in the human body.	
6. Spinal cord :	It is a cylindrical cord from which the spinal nerves extend.	
7. The peripheral nervous system :	It is the nerves which emerge from the central nervous system (the brain and the spinal cord).	
8. Cranial nerves :	They are 12 pairs of nerves that emerge from the brain.	
9. Spinal nerves: They are 31 pairs of nerves that emerge frespinal cord.		
10. Reflex action : It is the automatic (spontaneous) response body to different stimuli.		
11. Movement :	It is the ability of the organism to change its position from one place to another.	
12. Skull :	It is a bony box contains cavities for eyes, ears and nose.	
13. The joint :	It is the location at which bones meet each other.	
14. Immovable joints :	They are joints that don't allow any movement.	
15. Slightly movable joints :	They are joints that allow movement in one direction only.	
16. Freely movable joints :	They are joints that allow movement in all directions.	

2 Importance or use

ltem	Importance or use	
1. Dendrites :	They are connected to the neighbouring neurons to form synapse.	
2. Axon terminals :	They are connected to the muscles or form a synapse with the dendrites of other neurons.	
3. Brain :	It directs and coordinates all the processes, ideas, behaviours and emotions.	
4. Cerebrum (the two cerebral hemispheres) :	 They control the voluntary movements of the body such as running in races. They receive nerve impulses from the sense organs (sensory centers) and send the suitable responses to these impulses. They contain the centers of thinking and memory. 	
5. Cerebellum :	It maintains the balance of the body during the movement.	
6. Medulla oblongata :	It is responsible for regulating the involuntary processes of the body as: - Regulating heartbeats Regulating the movement of the respiratory system parts during breathing Regulating the movements and functions of the digestive system.	
7. Spinal cord :	 It delivers the nerve messages from the body organ to the brain and vice versa. It is responsible for the reflexes (a group of reflex actions). 	
8. Peripheral nervous system (nerves) :	It delivers the sensory information and the kinetic responses between the central nervous system and all parts of the body.	

9. Nervous system :	 It carries the nerve messages (impulses) from one of the body areas to another. It regulates and coordinates all the vital processes within the body. It receives the external stimuli that surround the human being through the sensory organs, then identifies and interprets them.
10. The skull :	It protects the brain.
11. The backbone: - It allows the body to bend in different direct of the spinal cord inside it.	
12. Cartilages :	They prevent friction between vertebrae during movement.
13. The ribcage :	It protects the lungs and the heart.It helps in the inhalation and exhalation processes (breathing).
14. Upper limbs : They allow eating, drinking, writing and hole things.	
15. Lower limbs :	They allow walking, running, standing and carrying the rest of the body.
16. The joints : They allow the movement between bones.	

3 Give reasons for

1. Dendrites extend from the neuron's body.

To connect the neuron's body with the neighbouring neurons forming synapse.

2. The axon ends with nerve endings.

To form a synapse with the dendrites of other neurons or to connect with the muscles.

3. Brain is the main control center in the human body.

Because it directs and coordinates all the processes, ideas, behaviours and emotions.

4. The cerebrum helps you to win in races.

Because it controls the voluntary movements as running in races.

5. Cerebrum is a very important part of the brain.

Because it:

- Controls the voluntary movements of the body as running in races.
- Receives nerve impulses from sense organs and sends the suitable responses to these impulses.
- Contains the centers of thinking and memory.
- Cerebellum has a great importance during the movement of the body.Because it maintains the balance of the body during its movement.
- 7. The medulla oblongata helps in digestion.

 Because it regulates the movements and functions of the

Because it regulates the movements and functions of the digestive system's organs.

8. The medulla oblongata keeps you alive during sleeping.

Because it is responsible for regulating the involuntary processes as :

- Regulating the heartbeats.
- Regulating the movement of the respiratory system parts during breathing.
- 9. Damage of the medulla oblongata causes death.

Because medulla oblongata controls all the involuntary processes (as heartbeats, movement of the respiratory system parts during breathing, movements and functions of the digestive system).

10. The brain is located inside the skull and the spinal cord extends through the inside of the backbone.

Because the skull protects the brain and the backbone protects the spinal cord.

11. Withdrawal of the hand quickly when it suddenly touches a hot surface.

Due to the reflex action made by the spinal cord.

- 12. It is important to prevent exhausting the sensory organs.
 - You must stay away from the sources of pollution.
 - You must sleep a sufficient periods of time.
 - It is important not to take sleeping pills without the doctor's prescription.
 To maintain the nervous system healthy.
- 13. You must reduce the intake of the stimulating substances such as tea and coffee.

To maintain the nervous system healthy as they affect the sleeping periods, the heartbeats and lead to nervous tension.

14. Addiction passively affects the nervous system.

Because it causes retardation of memory and learning, nervous tension, sluggishness, loss time sensation and sleepless.

- 15. The nervous system has a special importance in the human body.

 Because:
 - It carries the nerve messages from one of the body areas to another.
 - It regulates and coordinates all the vital processes within the body.
 - It receives the external stimuli that surround the human being through the sensory organs, then identifies and interprets them.
- 16. The movement is very important to living organisms.

Because it helps in moving from a place to another seeking benefit or away from harm.

17. The presence of the brain inside the skull.

To protect the brain.

18. The backbone is very important.

Because it allows the body to bend in different directions and it protects the spinal cord.

19. There are cartilages between the vertebrae of the backbone.

To prevent the friction between vertebrae during motion.

20. The ribcage surrounds both the heart and the lungs.

To protect the heart and the lungs.

21. The joints between the bones of the skull are immovable.

Because they don't allow any movement.

22. The knee joint is a slightly movable joint.

Because it allows the movement in one direction only.

23. The thigh joint is a freely movable joint.

Because it allows the movement in all directions.

4 What happens when...?

1. The absence of dendrites and axon terminals.

The synapse are not formed.

2. The cerebellum is shocked hardly.

The body will lose its balance.

3. Damage of medulla oblongata.

All the involuntary processes of the body will be disturbed causing death.

4. Your finger gets pricked by the plant thorns.

The withdrawal of your hand will occur quickly.

5. Approaching something to the eye.

The blinking of the eyelashes will occur.

- 6. The body doesn't take a sufficient period of rest.
 - Continuous exposure to contaminated air by the factories' smoke.
 - · Human is exposed to noise constantly.

The nervous system will be exhausted.

7. Sitting for long times in front of the computer.

The nervous system will be exhausted, due to exhausting of sense organs.

8. The over intake of stimulants such as tea and coffee.

The nervous system will be exhausted as they lead to nervous tension and affect the heartbeats and the sleeping periods.

9. Taking drugs.

It will cause sleepless, nervous tension, sluggishness, retardation of memory and learning.

- 10. All the skeletal system bones are one bone (fused).
 - All the bones of the human body are without joints.

The human body can't move.

11. The backbone consists of one long bone.

The human body can't bend in different directions.

12. The absence of cartilage between vertebrae of the backbone.

Friction takes place between the vertebrae causing harms to the backbone.

13. Thigh joint has a limited movement.

The lower limbs will move in one direction only.

14. The shoulder joints become from the limited movement joints.

The two upper limbs will move in one direction only.

5 Important tables

1.

The organ	Its position	
1. Dendrites :	They extend from the cell body of the neuron	
2. Axon terminals :	At the end of the axon of the neuron.	
3. The brain :	Inside the skull.	
4. The two cerebral hemispheres :	A part of the brain (the largest part of the brain).	
5. The cerebral cortex :	At the outer surface of the two cerebral hemispheres.	
6. The cerebellum :	At the back area of the brain below the two cerebral hemispheres.	
7. The medulla oblongata :	In the brain exactly in front of the cerebellum.	
8. The spinal cord :	In a channel within a series of vertebrae in the backbone.	
9. The H-shaped gray matter :	In the inner part of the spinal cord.	

2.

The joint	Its type	CONTRACT
1. Skull joints.	Immovable joints.	1 1 1 1 1 1
2. Knee joint.	Slightly movable joint.	"事"点。
3. Elbow joint.	Slightly movable joint.	els TV.
4. Shoulder joint.	Freely movable joint.	-10
5. Thigh (hip) joint.	Freely movable joint.	-1, 1, 5
6. Wrist joint.	Freely movable joint.	. 64. 60
7. Ankle joint.	Freely movable joint.	

6 Comparisons

1. Compare between the brain and the spinal cord.

Points of comparison	The brain	The spinal cord
1. Definition :	It is a nerve block containing millions of nerve cells and it is the main control center in the human body.	It is a cylindrical cord from which the spinal nerves extend.
2. Location :	It is located in a bony box called skull.	It extends in a channel within a series of vertebrae in the backbone.
3. Function :	It directs and coordinates all the processes, ideas, behaviours and emotions.	 It delivers the nerve messages from the body organs to the brain and vice versa. It is responsible for the reflex actions.

2. Compare between cerebellum and medulla oblongata.

Points of comparison	Cerebellum	Medulla oblongata
1. Location :	It lies at the back area of the brain below the two cerebral hemispheres.	It lies in front of the cerebellum.
2. Function :	It maintains the balance of the body during the movement.	It is responsible for regulating the involuntary processes of the body as: - Regulating the heartbeats Regulating the movement of the respiratory system parts during breathing Regulating the movements and functions of the digestive system.

3. Compare between the structure of spinal cord and the structure of two cerebral hemispheres.

Point of comparison	Spinal cord	Two cerebral hemispheres
	It consists of : - Internal gray matter that has	They consist of : - Internal white matter.
Structure :	the shape of letter "H".	- External gray matter that surrounds the white matter.

4. Compare between cranial nerves and spinal nerves.

Points of comparison	Cranial nerves	Spinal nerves
1. Definition :	They are nerves that emerge from the brain.	They are nerves that emerge from the spinal cord.
2. Number :	12 pairs.	31 pairs.

5. Compare between central nervous system and peripheral nervous system.

Points of comparison	Central nervous system	Peripheral nervous system
1. Structure :	It consists of the brain and the spinal cord.	It consists of cranial nerves and spinal nerves.
2. Function :	 It directs and coordinates all the processes, ideas, behaviours and emotions. It delivers the nerve messages from the body organs to the brain and vice versa. It is responsible for the reflexes. 	It delivers the sensory information and the kinetic responses between the central nervous system and all parts of the body.

6. Compare between different types of joints.

Points of comparison	Immovable joints	Slightly movable joints	Freely movable joints	
1. Definition :	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	They are the joints that allow movement in one direction only.	They are the joints that allow movement in all directions.	
2. Examples :	Joints between the bones of the skull.	- Knee joint. - Elbow joint.	Shoulder joint.Wrist joint.Ankle jointThigh (hip) joint.	

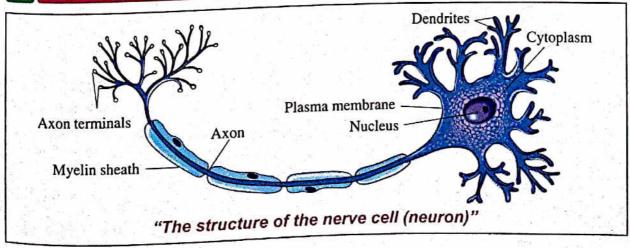
7. Compare between axial skeleton and appendicular skeleton.

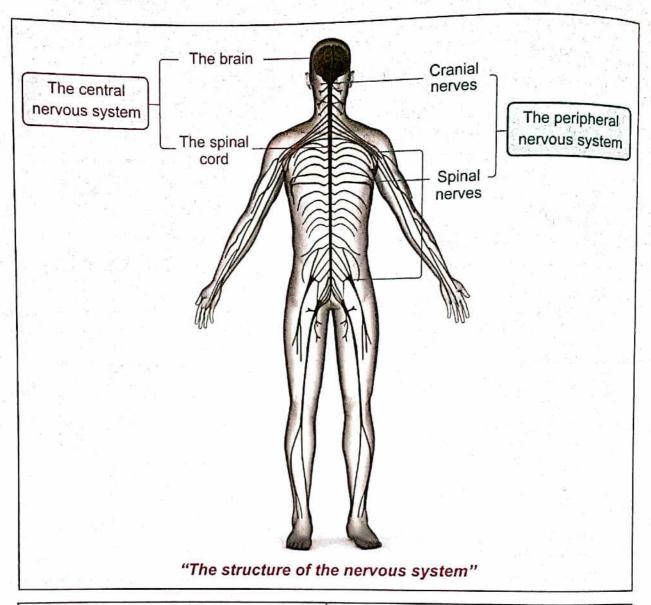
Axial Skeleton	Appendicular Skeleton	
It is composed of the skull, the backbone and the ribcage.	It is composed of bones of upper limbs and bones of lower limbs.	

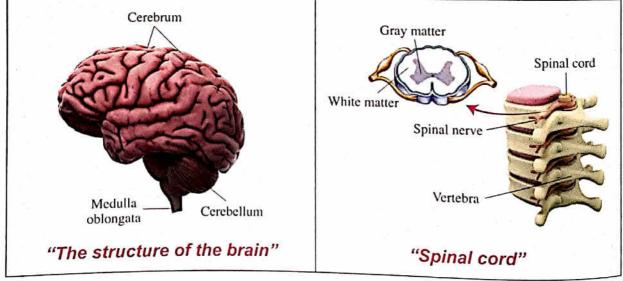
8. Compare between the upper limbs and the lower limbs in the human being.

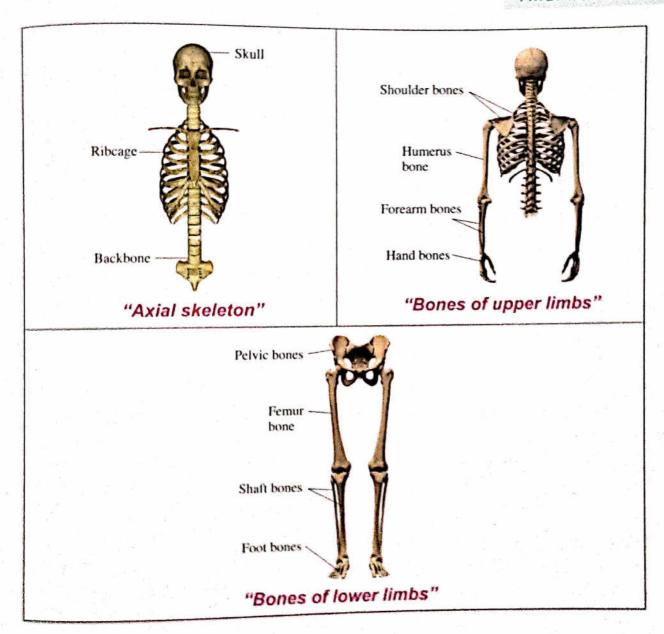
The upper limbs	The lower limbs
 They are connected to the shoulder bones. They are humerus bone, forearm bones and hand bones. They allow eating, drinking, writing and holding things. 	 They are connected to the pelvic bones. They are femur bone, shaft bones and foot bones. They allow walking, running, standing and carrying the rest of the body.

7 Important drawings









Important points

- The nervous system consists of two major systems which are :
 - 1. Central nervous system.
- 2. Peripheral nervous system.
- The neuron consists of two main parts which are:
 - 1. The cell body.

- 2. The axon.
- The cell body contains a nucleus, cytoplasm and a plasma membrane.
- The brain of the human consists of three main parts which are :
 - 1. Cerebrum.

2. Cerebellum.

3. Medulla oblongata.

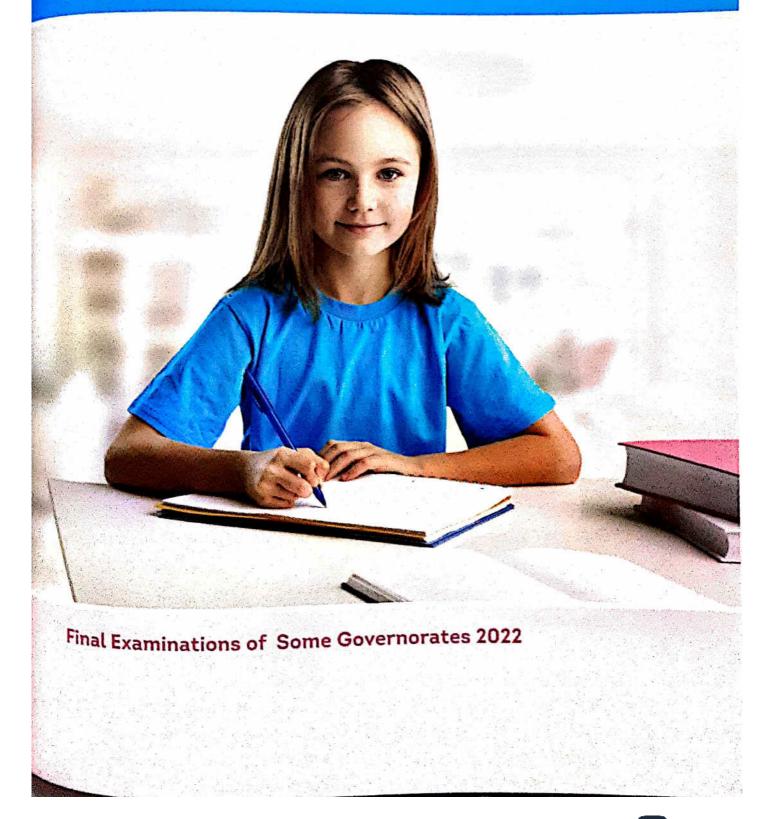
- The outer part of the cerebrum is a gray matter and called cerebral cortex, but the inner part is a white matter.
- The outer part of the spinal cord is a white matter, but the inner part is a gray matter (that has the shape of letter "H").
- The structure of the spinal cord is opposite to that of the two cerebral hemispheres.
- Ways to maintain the human nervous system :
 - Reducing the intake (drinking) of the stimulating substances such as tea, coffee and others.
 - 2. Staying away from tranquilizers and stimulants.
 - Keeping away from sitting for a long period in front of computer and television to avoid the exhausting of sense organs.
 - 4. Avoiding the extreme exciting situations.
 - Staying away from the sources of pollution, because they passively affect the nervous system.
 - 6. Staying away from addiction.
 - 7. Doing physical exercises.
 - 8. Giving the body a sufficient period of rest especially during sleep.
 - The locomotory system consists of :
 - 1. The skeletal system.

- 2. The muscular system.
- The skeletal system consists of :
 - The axial skeleton.

- Appendicular skeleton.
- The backbone consists of 33 vertebrae.
- The ribcage consists of 12 pairs of ribs.
- In the ribcage, the first 10 pairs of ribs are connected to the sternum (breast bone) anteriorly.
- Bones of upper limbs are connected to shoulder bones,
 while bones of lower limbs are connected to pelvic bones.

PART

Final Examinations



Final Examinations

of some governorates



on the first term 2022

	Cairo Governorate Manor House International School
Answ	er the following questions :
1. [A]	Write the scientific term of each of the following: 1. A gas that turbid clear limewater when it passes through it for a short time.
	2. A device used to measure the temperature of liquids. (
	3. The area of two bones meeting.
	4. The amount of matter in an object.
[B	1. Increasing the percentage of carbon dioxide in the atmospheric air of the Earth?
2 -	2. You touch a hot body by your hand ?] Complete the following :
[A	The temperature of normal human body is ···································
	2. In respiration process gas is consumed (used). 3. Locomotory system consists of two main systems, they are and
	4. The measuring units of mass are and
[B	Mention one importance of :
	1. Ribcage :
	2. Ethyl alcohol.

. [A] Choose the correct ar	nswer:			
	The mass of a body of Earth's surface is	on the moon's surfa	ce is 10 kg, so its n	nass on the	
	a. 10 kg.	b. 10 N.	c. 60 kg.	d. 60 N.	
	2. Myelin sheath surrou	ınds the			
	a. nerve cell axon.	b. cerebellum.	c. spinal cord.	d. cerebrum.	
	3. ····is used to m				
	a. Iron	b. Copper		d. Aluminium	
	4. Hydrogen peroxide is	s used in preparing	gas.		
	a. oxygen	b. carbon dioxide	c. nitrogen	d. hydrogen	
[E] Solve the following p	roblem : [Don't for	get to write rules].		
	If the mass of a body o	n the Earth is 18 kg	. Calculate :		
	1. Its weight on Earth.				
	Rule :				
	Weight on Earth =				• _
	2. Its weight on moon.				
	Rule :				
	Weight on moon =				•
l. [/	A] Put (✓) or (×):		7 - X		
	1. Heat transfers from o	cold objects to hot o	bjects.	()
	2. Ozone gas consists	of 3 oxygen atoms.		1)
) J	3. The shoulder joint is	an immovable joint		1)
	4. The weight is the for	ce that attracts the I	oody towards Earth)
[8	Look at the following	figure then answe	r:		_
	- This device is				
	- The function of constr	iction is			A. L.
					L. P. Carlon
					AN AND
					1

2 Cairo Governorate

Heliopolis Modern Language School

Radional Control			2.5	
Anguar	tha	fallouing	auactions	
VIIOMAL	ure	following	questions	

iswer the following question	,,,,,		
Choose the correct answer	r:		loads to increa-
Increasing the percentage	e of gas	in the atmosphere	leads to increasing
the temperature of the Ea	arth.		
a. oxygen	b. nitrogen		de d. hydrogen
2. All the following are from	the components	of the central nerv	ous system
except			
a. spinal nerves.		b. two cerebral	
c. spinal cord.		d. medulla oblo	
When a glowing magnesing gas the element that is for the second sec	ium ribbon is plac ormed on the wal	ced in a jar contain I of the jar is	dioxide
a. oxygen.	b. nitrogen.	c. hydrogen.	d. carbon.
4. An object has the mass 3		25-20-18 -1	
a. 360 N.	b. 36 kg.	c. 60 N.	d. 60 kg.
5. From the immovable join			
a. joints between skull bo		b. knee.	
c. wrist.		d. shoulder.	
6. The thermometer which s	scale ranges fron	n 35°C to 42°C is	
a. medical thermometer.		b. laboratory th	
c. alcoholic thermometer.		d. celsius thern	nometer.
[A] Complete the following	g :	3. II I	
1. Human syst		that controls all the	e vital operations of
2 conducts he			
Hydrogen peroxide d the presence of			, 75 m. Tie
The weight of any ob	ject is measured	by using the	····
[B] Write the scientific ter	m:		
1. A chemical substance			
speed up the rate of			()
A type of plants form of bacteria lives in the	e roots.	pp of specific type	()
Of Buotonia in or in the			(

[A] Correct the underlined w	ords :			
1. The backbone protects	the lungs.	(···)
2. Burning is the slow union the presence of moisture)
3. Weight doesn't change	by changing the place	e on the Earth. (··)
4. The automatic response as the voluntary response	Diam's and a second)
[B] What is the importance of	of ?			
1. Cartilages between the	vertebrae of the backl	oone.		
Oxy-acetylene flame.				
				···
. [A] Put (✓) or (×):				
1. Appendicular skeleton o	consists of upper and I	ower limbs bones.	()
2. Newton is measuring un	it of weight of an objec	t whose mass is 0.1 kg	. ()
3. Mercury is bad heat cor	nductor.		()
By decreasing the distal weight of the object occ		the Earth, decreasing	(,)
[B] Compare between crinai		nerves :		
(According to the definition	and number of both	of them).		
		St. Joseph School		
Cairo Governor	ate	St. Joseph School		
Answer the following question	s:			
[A] Choose the correct answ	ver:			
1. The responsible organ f	for reflexes is			
a. spinal cord.	b. brain.	c. medulla ob	olonga	ta.
2. The scientist who disco		ıs		
a. Anders Celsius.	b. Joseph Priestley	. c. Daniel Rut	herfor	d.
Jados Celsius.			11	01
[[[[[[[[[[[[[[[[[[[77.3

3. An object whose wei	ght is 20 Newton on Earth	n, its mass = ······kg.
a. 200	b. 20	c. 2
4. Oxygen is	than air, so it replaces air.	
a. equal	b. heavier	c. smaller
5. The ribcage consists	s of pairs of ribs.	The second second
a. 12	b. 24	c. 10
What is the type of t [C] Give an example for t Heat insulators.	ter to measure the different liquids. graph for his results. that has the highest thermometer that Ali used	Piquid Liquid Liquid Ciquid
2. 1 kilogram =ty 3. Joints arety [B] What happens when . 1. Increasing the perce	s into milky when	as in air.

[C] Choose from column (B) what suits it in column (A) :

Atmosphere is composed of:

(A)	(B)
Nitrogen gas	a. 1%
2. Oxygen gas	b. 78%
3. Carbon dioxide and other gases	c. 21%

14		
1	2	3

3.	[A]	Write	the	scientific	term
and i		*******	LIIC	SCIETITIO	terrir.

1. A mixture of different gases that surrounds the Earth's surface	and attracted
	()
2. It is the amount of matter in an object.	()
3. The system consists of skeletal system and muscular system.	()
4. It is a chemical compound whose molecule consists of	
	()
A STATE OF THE STA	,

5. A layer in the atmosphere that protects the Ear	th from harmful radiations
that come from Sun.	(

[B] Look at the figure then answer:

1. This is the cell.		14
2. Write the labels :	•	2
(a)		
(b)	* 1	45
(a)	700	

[C] What is the importance of each of the following ... ?

1.	Spring scale.					
			 .,		 	
2.	2. Oxy-acetylene flame.					50
		.,	 ********	*********	 	
	District Committees of the control o		 			

4. [A] Put (√) or (x):

1. The measuring unit of weight is knogram.	- 1)
2. Mercury is used in making thermometers.	()
3. Oxygen gas occupies about $\frac{1}{4}$ of the air volume.	()
4. Skull is a bony box that protects the brain.	. ()
5. When adding lemon juice to sodium bicarbonate carbon dioxide gas		
is produced.	(1

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2. On putting a lighted ma	atch in a cylinder filled wit	
put out.		
3 - 4		
Compare between :		
Point of comparison	Central nervous system	Peripheral nervous system
Structure :		
Structure :		
Cairo Governo	rate El-Helmia	Official Language Scho
		Official Language Scho
r the following question	ns:	Official Language Scho
r the following question	ns:	
r the following question	ns : : s used to measure the te	mperature of liquids.
complete the following complete the following thermometer in the plants use the following the plants use the pl	is: s used to measure the te gas in photosynthesis p s 21% of air volume.	mperature of liquids.
c the following question Complete the following The plants use	is: s used to measure the te gas in photosynthesis p s 21% of air volume.	mperature of liquids.
complete the following complete the following thermometer in the plants use the following the plants use the pl	is: s used to measure the te gas in photosynthesis p s 21% of air volume. weight is	mperature of liquids.
c the following question complete the following thermometer is the plants use gas represents the measuring unit of the	is: s used to measure the te gas in photosynthesis p s 21% of air volume. weight is	mperature of liquids.

2. It is an organ which is responsible for reflex action. 3. It is a bony box that protects the brain. (1.	Oxygen gas is collected by		
2. Mercury is used in making thermometer. [B] Write the scientific term: 1. Materials that don't allow the heat to pass through. 2. It is an organ which is responsible for reflex action. 3. It is a bony box that protects the brain. 4. It is the degree of hotness of coldness of a body. [A] Put (√) or (x): 1. Oxygen gas is used in making bread and dry ice. 2. The scale of celsius thermometer starts from 35°C to 42°C. 3. Iron conducts heat faster than copper. 4. Hydrogen peroxide is used in preparation of oxygen gas. (B] What happens when? 1. A medical thermometer is put in boiled water. 2. A nail wetted by water is exposed several days to humid air. (A] Choose the correct answer: 1. The backbone consists of vertebrae. a. 100 b. 33 c. 12 2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is		exygen gas is collected t	by downward displacement of	of water.
2. Mercury is used in making thermometer.				
[B] Write the scientific term: 1. Materials that don't allow the heat to pass through. 2. It is an organ which is responsible for reflex action. 3. It is a bony box that protects the brain. 4. It is the degree of hotness of coldness of a body. [A] Put (√) or (x): 1. Oxygen gas is used in making bread and dry ice. 2. The scale of celsius thermometer starts from 35°C to 42°C. 3. Iron conducts heat faster than copper. 4. Hydrogen peroxide is used in preparation of oxygen gas. (B] What happens when? 1. A medical thermometer is put in boiled water. 2. A nail wetted by water is exposed several days to humid air. 4. The backbone consists of were vertebrae. a. 100 b. 33 c. 12 2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is a. respiration. b. combustion. c. oxidation. 4. The number of cranial nerves is				,
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3. Iron conducts heat faster than copper. 4. Hydrogen peroxide is used in preparation of oxygen gas. [B] What happens when? 1. A medical thermometer is put in boiled water. 2. A nail wetted by water is exposed several days to humid air. 2. A nail wetted by water is exposed several days to humid air. 4. The backbone consists of wertebrae. a. 100 b. 33 c. 12 2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is a. respiration. b. combustion. c. oxidation. 4. The number of cranial nerves is preparation of oxygen gas. (1)				42°C (
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1. A medical thermometer is put in boiled water. 2. A nail wetted by water is exposed several days to humid air. 2. A nail wetted by water is exposed several days to humid air. 4. The backbone consists of vertebrae. a. 100 b. 33 c. 12 2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is a. respiration. b. combustion. c. oxidation. 4. The number of cranial nerves is put in boiled water. c. a. c. 12				nas (
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2. A nail wetted by water is exposed several days to humid air. [A] Choose the correct answer: 1. The backbone consists of vertebrae. a. 100 b. 33 c. 12 2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is a. respiration. b. combustion. c. oxidation. 4. The number of cranial nerves is pairs.				
[A] Choose the correct answer: 1. The backbone consists of vertebrae. a. 100 b. 33 c. 12 2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is a. respiration. b. combustion. c. oxidation. 4. The number of cranial nerves is pairs.	[B] V	What happens when?		
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1. The backbone consists of	1	. A medical thermometer i		
1. The backbone consists of wertebrae. a. 100 b. 33 c. 12 2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is a. respiration. b. combustion. c. oxidation. 4. The number of cranial nerves is pairs.	1	. A medical thermometer i		mid air.
1. The backbone consists of wertebrae. a. 100 b. 33 c. 12 2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is a. respiration. b. combustion. c. oxidation. 4. The number of cranial nerves is pairs.	1	. A medical thermometer i		mid air.
1. The backbone consists of	1	. A medical thermometer i		mid air.
a. 100 b. 33 c. 12 2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is	2	. A medical thermometer i	exposed several days to hu	mid air.
2. Wrist joint is from joints. a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is	2 [A] (. A medical thermometer is	exposed several days to hu	mid air.
a. slightly movable b. freely movable c. immovable 3. Rapid combination between oxygen and element is	2 (A)	A medical thermometer is	exposed several days to hu	
3. Rapid combination between oxygen and element is	2 [A] (A medical thermometer is A nail wetted by water is Choose the correct answ I. The backbone consists of a 100	exposed several days to hu ver : of vertebrae. b. 33	
a. respiration. b. combustion. c. oxidation. 4. The number of cranial nerves is pairs.	2 [A] (A medical thermometer is A nail wetted by water is Choose the correct answ I. The backbone consists of a 100 Wrist joint is from	exposed several days to hu ver : ofvertebrae. b. 33 joints.	c. 12
4. The number of cranial nerves is pairs.	[A] (A medical thermometer is A nail wetted by water is Choose the correct answ The backbone consists of a. 100 Wrist joint is from a. slightly movable	exposed several days to hu ver: of vertebrae. b. 33 joints. b. freely movable	c. 12 c. immovable
h /3 C 12	[A] (Choose the correct answer. The backbone consists of a 100. Wrist joint is from a slightly movable. Rapid combination betw.	exposed several days to hu ver: ofvertebrae. b. 33 joints. b. freely movable een oxygen and element is	c. 12 c. immovable
	[A] (Choose the correct answer. The backbone consists of a 100 Wrist joint is from a slightly movable Rapid combination between a respiration.	exposed several days to hu ver: ofvertebrae. b. 33 joints. b. freely movable een oxygen and element is b. combustion.	c. 12 c. immovable

Its weight on Earth's surface.		
Cairo Governorate	Leaders Language	School
nswer the following questions :		
[A] Choose the correct answer :		
All the following from the composition except	nents of the central nervous s	ystem
a. cerebrum.	b. cerebellum.	
c. spinal cord.	d. spinal nerves.	
2. The axial skeleton consists of	and the second of the control of the second	
 a. skull, backbone and ribcage. 	b. upper limbs and lower limb	os.
c. femur, shaft and foot.	d. humerus, forearm and han	id.
By burning a piece of magnesium	m in a jar containing carbon di	oxide,
the black substance that is form	ed on the wall of the tube is \cdots	
a. magnesium oxide.	b. carbon.	
c. calcium carbonate.	d. manganese dioxide.	
4. The fastest metal in conducting		
a. aluminium. b. iron.	c. copper. d. wood	i.
[B] Give reasons for :		
1. Plastic and wood are used to ma	ake handles of cooking pots.	
Oxygen is collected by downwar	d displacement of water	
[A] Write the scientific term :		
1. The amount of matter in an object	**************************************	(···
2. The degree of hotness or coldne		(

	3. It is the layer that protects the Earth from harmful radiation th	
	comes from the Sun.	()
	An organ that is responsible for reflex action.	()
[B] What happens when ?	
	No spaces are left between railway bars	
	There is no constriction in the medical thermometer.	
3.	[A] Complete the following :	, v .=
	Manganese dioxide acts as a in the preparation of or in the lab.	kygen
	The spring scale is used to measure of the body, but scale is used to measure of the body.	the balance
	3. The gravitational force on a balloon when the dis	tance between
	the balloon and the center of the Earth decreases.	
	4 gas is called azote gas that means lifeless gas.	
	[B] Mention one function (use) of :	
	1. The medical thermometer.	
	2. Oxyacetylene flame.	
	3. Cerebellum.	
	4. Skull.	
4.	[A] Put (✓) or (×):	- F
	Heat transfers from cold object to hot object.	()
	Oxygen molecule consists of three oxygen atoms.	()
	3. Newton is the measurement unit of weight.	()
1	4. Shoulder belongs to the pelvic girdle.	()
1.00	[4] [P. 14] : [1]	

t			
	o. Its weight on the Eartl	h =	
	. Its weight on the moo	n =	
6	Giza Governo	rate	Genius Language School
Answe	r the following questio	ns:	
1. [A] C	Complete the following	ju =	
	whose mass is		uals the weight of an object
3	in the presence of mo	oination with oxyge oisture.	n, butis slow combinatio
	which doesn't dissolve	ed in water.	due to the forming of
[B] A	an object whose mass urfaces of the Earth a	on Earth is 6 kg. on the contract of the moon.	calculate its weight on both
	urraces of the		
1	. Weight on Earth =		
1			
1			
2	. Weight on moon =	wer:	
2		wer:	pairs.

	3. Nitrogen forms a	an important part in	
	a. protein.	b. carbohydrate.	c. fats.
	4 is the fa	astest element in heat conduction.	
	a. Iron	b. Aluminium	c. Copper
[B]	What happens wh	nen ?	
		pricked by the plant thorns.	
	2. Add yeast to the	dough on making bread.	
3. [A] Write the scientif	ic term :	
	1. It consists of a	gray matter in the form of letter (H) s	
	the white matter		()
		skeleton in the human body.	()
		of hotness or coldness of a body.	()
	4. The automatic r	esponse of the body to different stim	nuli. ()
[B]		in making thermometer.	
	2. Carbon dioxide	is not collected by displacement of v	vater.
	3. Damage of the r	nedulla oblongata causes death.	
4. [A]	Put (√) or (x) an	d correct the wrong ones :	leguminous planta
	1. The nodular bact	eria fix oxygen of air in the roots of	ieguminous piants
	such as beans a	nd clover.	hones 2 forearm
	, d honor	the lower limb consists of humerus less of the hand.	- \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	Oxygen gas is pr	oduced when hydrogen peroxide di	()
	the presence of o	carbon dioxide gas.	
	4. Heat transfers fro	om hot object to cold one.	
ENLE			400

[B]	(a) Is(b) Is	ch label repres	ents	Тар-Ф	
7	Giza Go	vernorate		El-Agoza Directorat	e
ısw	er the following (questions :			
[A]	Choose the corr	ect answer :			
	1. The gas which	turns limewate	r turbid is	··· gas.	
	a. oxygen		c. carbon dio		
	2. The ribcage in	the human boo	dy consists of	of ribs.	
	a. 10 pairs		c. 12 pairs	d. 13 pairs	
	3. The best meta	I in conducting	heat is	- I, = 1	
	a. aluminium.		c. iron.	d. wood.	
	4 near	ly equals the m	ass of one paper	clip.	
	a. Kilogram	b. Gram	c. Newton	d. Ton	
[B]	What is the fund	tion of ?			
	1. Celsius thermo				
	2. Carbon dioxide	gas.		7	
					ocono e e e e e e e e e e e e e e e e e e
	Tyrig I I E.				
[A]	Write the scient			* 2 3 1	11 1 . · V
	1. The amount of		■		()
	2. A bony box tha	t contains cavit	ties for eyes, ears	and nose.	()
	3. A gas that is the				()
	4. A flam is used i	in cutting and v	velding metals.		()

B] If the mass of a body on the Earth is 18 kg calculate :	
1. It's mass on the moon =	
2. It's weight on the Earth =	15 87
A] Complete the following :	
1. The scale of the medical thermometer starts from°C	
and end at ······°C.	
Oxygen gas is prepared by decomposition of in prese	ence of
as acatalyst.	
3. The centers of thinking and memory lie in	
4. The mass is measured by scale and the weight is me	asured by
scale.	
[B] Correct the underlined words :	
1. Ozone is composed two oxygen atom.	()
Cerebellum connects the brain with spinal cord.	_ (·····)
 3. The spinal cord is responsible for reflex action in human body. 4. Oxygen gas occupies 78% of the atmospheric air. [B] Give reasons for: 1. The handles of cooking pots are made of plastic. 	Ì
2. Damage of the medulla oblongata causes death.	
Giza Governorate North Giza Directo	orate
Swer the following questions :	
A] Write the scientific term :	
The force by which a body is attracted to the Earth.	(
그리고 그리는 그리는 그가 마니어 구멍하면서 어때 목에는 아닐래요이를 제 (요즘) 그는 그는 그는 것도 모든 그는 것을 무겁니다 하다니.	
/ IDA dae that rangagesta /UV/ at the air Vallinia	(
The gas that represents 78% of the air volume. The degree of bothess or coldness.	(
3. The degree of hotness or coldness.4. Part of the nervous system responsible for the reflex actions.	(

[B] W	hat happens when ? Diluted hydrochloric acid added to calcium carbonate	salt.	
2.	Iron nails exposed to the moist air for days.		
2. [A] C	orrect the underlined words :		
	Backbone consists of 10 vertebrae.	T. Page	(
	Oxygen molecule consists of three atoms of oxygen.		(
	Balance scale is used to measure the weight of obje		(
	Water is the liquid that is used in the thermometer.		(
	ive reasons for :		
	Clinical thermometer has constriction.		
2	Carbon dioxide gas is used in extinguishing fires.		
1 2 3	Complete the following: The catalyst used in the preparation of oxygen gas is thermometer has graduation from 35°C to 42. The mass of object is not affected by changing the The brain is protected by	2°C.	
. 1	ross the odd word out : Femur bones – Shaft bones – Humerus bones – Foot Wood – Iron – Glass – Plastic.	bones.	((
4. [A] C	hoose the correct answer :		
1. 2. 3.	Oxygen gas is produced from process. a. respiration b. photosynthesis The weight of object on Earth = 60 N, its weight on the a. 10 N b. 6 N connects the brain to the spinal cord. a. Cerebrum b. Cerebellum We feel hotness when	c. 600 N	l a oblongata
	a. lose heat. b. gain heat.	c. touch c	old cup.

-		100						
	-		Ex	_	-	_	 _	
_			- Y		•	\mathbf{n}	 \sim r	10

[B] What is the importance of ? 1. Oxy-acetylene flame.	
2. Celsius thermometer.	
9 Giza Governorate 6th of October	Directorate
Answer the following questions :	
1. [A] Complete the following sentences :	
1. The mass measuring device is and its unit is	
2. The axial skeleton consists of and	
3. Oxygen gas produced from process.	
4. The most abundant gas is	
[B] Correct the underlined words :	
1. The number of cranial nerves are 31 pairs.	(
2. Legumes fix oxygen from air to form protein.	(
2. [A] Put (✓) or (x):	
1. Aluminium conduct heat faster than copper.	
There is constriction in celsius thermometer.	()
Joint are location of bones meeting.	()
The spinal cord responsible for reflex action.	()
[B] Give reasons for :	()
Handle of cooking pots are made of plastic.	
Mercury is used in making thermometer.	
[A] Write the scientific term for each of the following :	
Device used to measure the weight.	()
2. The axis of skeleton of the body.	
3. Gas used to put off fire.	()
	()
Materials which don't allow heat to pass through.	()

المحاصر علوم لغات (Notebook) / ۲ ب/ تيرم ۱ (م: ۱۵)

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Kilogram – Ton – Newton – Gran	um. (
A] Choose the correct answer :	
1. The percentage of oxygen gas in	atmosphere is
a. 12 % b. 78 %	c. 21 % d. 30 %
2. Carbon dioxide gas turns limewa	ater into
a. milky. b. black.	c. yellow. d. blue.
3. The central nervous system cons	sists of ·····
a. brain only.	b. spinal cord only.
c. joint only.	d. brain and spinal cord.
4. The human ribcage protect	
a. heart only.	b. lungs only.
c. brain only.	d. heart and lungs.
Alexandria Governorate	El-Agamy Directorate
wer the following questions :	
이 어린 아이들은 그들이 하는 사람이 되었다. 그 그 모든 아이들이 그리고 있는 그 그리고 있다고 있다.	
A] Complete the following: 1. Spring scale is used to measure	while balance scale is used
A] Complete the following: 1. Spring scale is used to measure measure	
A] Complete the following: 1. Spring scale is used to measure measure	ne backbone protect
A] Complete the following: 1. Spring scale is used to measure measure	ne backbone protect ······· from ······ to ······
A] Complete the following: 1. Spring scale is used to measure measure	ne backbone protect ······ from ······ to ······ consists of ····· and ······
measure	ne backbone protect from to consists of and h's surface 12 kg finds :
A] Complete the following: 1. Spring scale is used to measure measure measure and the skull protect measure measur	ne backbone protect from to consists of and h's surface 12 kg finds :

1. The most abundant gas in air. (2. [A] Write the scientific term :						
3. The location at which bones meet each other. 4. The building unit of the nervous system. [B] What happens when? 1. The medulla oblongata is damage. 2. Sterilize medical thermometer with boiling water. 3. [A] Choose the correct answer: 1. Ozone gas formed from	1. The most abundant gas in	air.	()				
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[B] What happens when? 1. The medulla oblongata is damage. 2. Sterilize medical thermometer with boiling water. 2. The liquid which used in making thermometer is							
1. The medulla oblongata is damage. 2. Sterilize medical thermometer with boiling water. 2. Sterilize medical thermometer with boiling water. 3. [A] Choose the correct answer: 1. Ozone gas formed from a. three different atoms. b. three similar atoms. c. two similar atoms. 2. The liquid which used in making thermometer is	`4. The building unit of the ne						
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2. Sterilize medical thermometer with boiling water. 3. [A] Choose the correct answer: 1. Ozone gas formed from a. three different atoms. b. three similar atoms. c. two similar atoms. 2. The liquid which used in making thermometer is a. mercury. b. alcohol. c. water. 3. The axon terminal form with other neuron. a. nerve b. joint c. synapse 4. The weight of object with 200 gram mass is Newton. a. 2 b. 20 c. 2000 [B] Write one function or use: 1. Cerebellum. 2. Clear limewater. 4. [A] Correct the underlined words: 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (1. The medulla oblongata is	To the H					
1. Ozone gas formed from a. three different atoms. b. three similar atoms. c. two similar atoms. 2. The liquid which used in making thermometer is a. mercury. b. alcohol. c. water. 3. The axon terminal form with other neuron. a. nerve b. joint c. synapse 4. The weight of object with 200 gram mass is Newton. a. 2 b. 20 c. 2000 [B] Write one function or use: 1. Cerebellum. 2. Clear limewater. 4. [A] Correct the underlined words: 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (
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a. three different atoms. b. three similar atoms. c. two similar atoms. 2. The liquid which used in making thermometer is a. mercury. b. alcohol. c. water. 3. The axon terminal form with other neuron. a. nerve b. joint c. synapse 4. The weight of object with 200 gram mass is Newton. a. 2 b. 20 c. 2000 [B] Write one function or use: 1. Cerebellum. 2. Clear limewater. 4. [A] Correct the underlined words: 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (NAME OF THE PROPERTY OF THE PR						
a. mercury. 3. The axon terminal form with other neuron. a. nerve b. joint c. synapse 4. The weight of object with 200 gram mass is Newton. a. 2 b. 20 c. 2000 [B] Write one function or use: 1. Cerebellum. 2. Clear limewater. 4. [A] Correct the underlined words: 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (c. two similar atoms.				
a. mercury. 3. The axon terminal form with other neuron. a. nerve b. joint c. synapse 4. The weight of object with 200 gram mass is Newton. a. 2 b. 20 c. 2000 [B] Write one function or use: 1. Cerebellum. 2. Clear limewater. 4. [A] Correct the underlined words: 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (2. The liquid which used in m	aking thermometer is					
a. nerve b. joint c. synapse 4. The weight of object with 200 gram mass is Newton. a. 2 b. 20 c. 2000 [B] Write one function or use: 1. Cerebellum. 2. Clear limewater. 4. [A] Correct the underlined words: 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (
4. The weight of object with 200 gram mass is	3. The axon terminal form ····	with other neuron.					
[B] Write one function or use: 1. Cerebellum. 2. Clear limewater. 4. [A] Correct the underlined words: 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (a. nerve	b. joint	c. synapse				
[B] Write one function or use: 1. Cerebellum. 2. Clear limewater. 4. [A] Correct the underlined words: 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (4. The weight of object with 2	200 gram mass is	Newton.				
1. Cerebellum. 2. Clear limewater. 2. Clear limewater. 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (
1. Cerebellum. 2. Clear limewater. 2. Clear limewater. 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (IBI Write one function or use :						
2. Clear limewater. [A] Correct the underlined words: 1. The number of cranial nerves is 33 pairs. 2. The mass of object on moon is more than its mass on the Earth. (1. Cerebellum						
1. The number of cranial nerves is 33 pairs. (2. Clear limewater.						
1. The number of cranial nerves is 33 pairs. (
2. The mass of object on moon is more than its mass on the Earth. () 3. Mercury is bad conductors of heat. () 4. The knee is freely movable joint. () [B] Give reasons for: 1. The presence of constriction above mercury bulb in medical thermometer.	4. [A] Correct the underlined wor	ds:					
3. Mercury is bad conductors of heat. (The number of cranial ner 	ves is 33 pairs.					
4. The knee is <u>freely</u> movable joint. (
4. The knee is freely movable joint. [B] Give reasons for: 1. The presence of constriction above mercury bulb in medical thermometer.	3. Mercury is bad conductors	s of heat.	()				
The presence of constriction above mercury bulb in medical thermometer.			()				
The presence of constriction above mercury bulb in medical thermometer.	IBI Give reasons for :						
	The presence of constriction	on above mercury bulb in	medical thermometer.				
2 You have to keep away from tranquilizers and stimulants.							
/ foll have to keep away nom	2 You have to keep away fro	m tranquilizers and stimu	lants.				

11 Alexandria Governorate

Al-Montazah Directorate

Answer the following questions:	Answer	the	followin	g ques	tions	:
---------------------------------	--------	-----	----------	--------	-------	---

Complete the following :				
1. The human skeletal system consists	of and			
2. The clinical thermometer is graduate				
Theis the measurement unit of mass whereas the the measurement unit of weight.				
4. The number of cranial nerves is	and the number of spinal ne	rves		
From the examples of substances wand	hich are bad conductor of heat ···	••••••		
Oxygen is produced from process.	rocess and carbon dioxide produ	ced fro	m	
2. Write the scientific term of :				
 A part of nervous system responsible 	e for reflex action	()	
2. The liquid used in making thermome	그 그 그 이 그리고 한테니까 마하네워 됐다. 네 그리네요 그네	(
3. A gas used in ammonia industry.		(
4. The attraction force of the Earth to th		(
5. The location of bones touch and allo	있다면서 병교 이렇게 하나 없는 그 없다고 다	(
6. It is the degree of hotness or coldne		(
3. [A] Put (✓) or (×):				
Heat transfers from a cold object	to a hot object	,	١	
2. Cerebellum contains the center of	of thinking	,)	
5. The mass of the body doesn't ch	20000 '1)	
4. Oxygen gas is collected by the d	Ownward displacement		,	
[D] Give reasons for .			,	
Aluminium is used in manufactur	ing of cooking pans.			
			-/-	
2. Carbon dioxide is used to exting	ish fires.			
······································	······································			

4. [A] If an object's mass 30 kg. on 1. Its mass on the moon surfa	ace.		
2. Its weight on the Earth.			
3. Its weight on the moon.			_
[B] Look at the opposite figure			
2. ····································			-0 -2 -3
12 Qalyoubia Governor	ate	Science Inspecto	orate
Answer the following questions :	• 1		
1. [A] Complete the following: 1. Mass is constant and not at a 2. Nitrogen molecule consists consists of	s of	oints, while ozone mo oints, while the wr and the ont of water.	ist joint is
2. [A] Choose the correct answer 1. An object whose weight is 20	:) Newton on Earth	ı, so its mass is equ	ıalkg.
- 10 h 2	c. 200	d. 20	
2. We can detect for the prese		loxide gas by usin	g a solution
of	h calcium	hydroxide.	
a. calcium carbonate.c. magnesium oxide.	d. hydroch		
BMS(성의) - 1 1 1 1 1 1 1		No. 10 of Table 19	the farance.

3. Mercury remains in liquid state between °C.		
a. 39: 357 b39: -357 c39: 357 d. 39: 3	375	
4. The device of meausring weight is		
a. balance scale. b. spring scale.		
c. one arm scale. d. digital scale.		
[B] Give reasons for :		
 Oxygen is collected by downward displacement of water. 		
		• • • • • • • • • • • • • • • • • • • •
Damage of the medulla oblongata causes death.		
	•••••	
3. [A] Put (✓) or (x) and correct the wrong one :	1	
Handles of cooking pots are made of aluminium.		(
The used liquid in making the celsius thermometer is mercury.	\$1.7 h	ì
Oxygen gas is prepared from hydrogen peroxide in the present of catalyst.	е	
Nitrogen is colorless, tasteless, odorless gas and dissolves in		
water easily.		(
[B] What happens when ?		
All the bones of the human body without joints.		
There is no constriction in the medical thermometer.		
4. [A] Write the scientific term :		
Part of the nervous system responsible for reflex actions.		
2. A gas used by legumes in formation of its proteins	(
The flame which is used for cutting and welding metals.	(
It consists of skeletal and muscular system.	(
[B] Mention one function for :		4
Air in the double glass window.		Ē.
2. Dendrites in the nerve cells.		
2		
The state of the s		

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Menofia Governorate

Shebien El-Koum Directorate

Answer the following questi	ons	:
-----------------------------	-----	---

1. [/	A] Choose the correct answer :
	1. The gravitational force that affects an apple whose mass is 2kg
	Newton (acceleration of Earth gravity = 10 m/s ²).

	a. 20			D. 2		c. 10
2.	The liquid	metal	that can	be seen	easily through	the thermometer

2. The liquid metal that	it can be seen easily through t	the thermometer glass
is		
a. water.	b. ethyl alcohol.	c. mercury.

a. water.	b. ethyl alcohol.	c. mercury.
prot	ects the Earth from harmful radiation	on that comes from the Sun.

	a. Carbon dioxide gas	D. Ozone layar	c. Oxygen gas
4	Secreting saliva on seein	a or smellina aood food	is an example of

Secreting saliva on seeing	or	smelling good food is a	n example of
a reflex action	h	nervous tension	c both of them.

[B] Compare between :

Points of comparison	Celsius thermometer	Medical thermometer
Range of scale :		
Used liquid :		

2. [A	\] Complete :
	1. Mass is the amount of matter that body contains, it does not change
	according to

2.	conducts heat faster than aluminium and iron.
	Small amount of nitrogen are used to fill some types of

4 The basic structure	unit of the nervous syster	n is

[B] Mention the scientific term :

1. Material that does not let rieat now through.	(
2. A chemical substance remains without change in its quantity and	
properties such as manganese dioxide.	()

3. [A] Correct the underlined words

Correct the underlined words.	
1. The joint is the location at which muscles meet each other.	
2. The mass of matter is decreased after combination with oxygen.	
3. Handles of cooking pots are made of copper.	()

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B] Give reasons for :	
The window is made by bonding two	sheets of glass and maintaining
a space between them filled with air	
a space between them mise that en	
2. Clear limewater becomes turbid who	en carbon dioxide gas pass in it.
A101 (D) 1-4	in the partition (A) is
A] Choose from column (B) what suits	and the second s
(A)	(B)
1. The backbone consist of	a. weight
vertebrae.	b. lower
2. Carbon dioxide is than air.	c. zero C
3. The water freezes at	d. 12
4. The force which attracts a body to	e. heavier f. 33
the Earth is	
1	3 4
1, 2	3 4bulb in medical thermometer.
1	3 4bulb in medical thermometer.
1	3 4bulb in medical thermometer.
1	3 4bulb in medical thermometer.
1	3
1	3
1	3
1	3
1	3

[B] Complete the following table :

Points of comparison	Medical thermometer	Celsius thermometer
Scale :		
Constriction :		

2. [A] Put (✓) or (×):	
1. Mass of an object on the Earth equal six times its mass on the	he moon. (
2. All metals are good conductors of heat.	(
Plants absorb carbon dioxide and nitrogen gases from air.	(
Knee joint is a freely movable joint.	()
[B] Give reasons for :	
In winter we wear wool clothes.	
2. Clear limewater becomes turbid when carbon dioxide passes	s in it.
3. [A] Write the scientific term :	
 The measurement unit of weight which is almost equal to a m 	nass 100 grams.
	()
The materials that don't allow the flow of heat inside.	()
3. Slow combination between oxygen gas and some elements	in the presence
of moisture.	()
 Structure regulates the movement and function of the digesti 	ive system.
	()
[B] What happens when ?	
Sterilize the medical thermometer using boiled water.	
Insert a light magnesium ribbon in a cylinder filled with carbo	on dioxide gas.
4. [A] Choose the correct answer :	
1. Mass of an object on the Earth is 6 kg so its weight on the E	arth
Newton and on the moon Newton.	
a. 6 – 1 b. 10 – 6 c. 60 – 10	d. 1 – 6

c. Mercury d. Air
b. proteins.
d. carbohydrates.
S.
c. 62 d. 24
en gas and CO ₂ from the
2) Figure (3)
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
arbon dioxide : Figure
arbon dioxide : Figure
Science Inspectorate
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Science Inspectorate
Science Inspectorate temperature of liquids, while
Science Inspectorate temperature of liquids, while temperature of human being. gas used in filling car
temperature of liquids, while temperature of human being. gas used in filling car
temperature of liquids, while temperature of human being. gas used in filling car
Science Inspectorate temperature of liquids, while temperature of human being. gas used in filling car
temperature of liquids, while temperature of human being. gas used in filling car
temperature of liquids, while temperature of human being. gas used in filling car
temperature of liquids, while temperature of human being. gas used in filling car

2. [A] Choose the correct an	swer:		
1. An object whose weigh		arth, its mass is equa	I to
a. 2kg.	b. 10kg.	c. 2kg. d. 2	00kg.
2. Carbon dioxide passe	es through clear limew	vater forming	that
insoluble in water.			
a. calcium carbonate	1	 b. calcium hydroxide 	
c. magnesium oxide		d. carbon	
3 is a part of h	uman nervous system	n which responsible fo	or reflex
actions.			
a. Brain	b. Spinal cord	c. Nerves d. C	erebrum
4. Mercury remains liqu		L 0700 and 257°C	
a. – 39°C and 375°C).	b. 37°C and 357°C.d. – 39°C and – 357	°C
c. 39°C and 357°C.		a. – 39 C and – 337	0.
[B] Give reasons for :			
1. Oxygen is collected I	oy downward displace	ment of water.	
2. The capillary tube of	medical thermometer	contains constriction.	
			••••••
0			18
3. [A] Write the scientific te	rm :	ments	()
1. Slow combination be	tween oxygen and ele		
2. The gravitational force	ce by which the body a	alliacted to the Latin	()
3. A part of brain which	responsible for body t	palance.	77
4. Materials that allow h	neat to flow through.		. ()
when .	?		
1. Technicians don't lea	ive space between rai	lway bars.	
Note that the second se			
2. Carbon dioxide gas p	percentage increase ir	atmosphere.	
2. Gailber.			
		No contract the second	
4. [A] Put (✓) or (×):		poat	- (=)
1. Copper is the fastest	metal in conducting i	eton	()
o n of upper limbs	s belongs to axial shor	Olon.	()
11	STATE WILLIAM HICANS	guo.	
4. The axon of the neur	on is covered with ge		
myelin sheath.			
Management of the State of the	the state of the s		123

[B] Cross out the odd word :	
1. Iron - Plastic - Copper - Aluminium.	()
Forearm bones – Shaft bone – Hand bones – Hummers bone.	()
3. Help in burning - Easily dissolves in water - Heavier than air	
- Represent 21 %	· (······)
4. Spring scale - Sensitive scale - Digital scale - Scale with pointer	r. ()
	100
16 Gharbia Governorate Science Inspector	ate
Answer the following questions :	
1. [A] Complete the following :	
The gravitational force for a balloon — when the distance the balloon and center of the Earth increases.	between
2. We use to sterilize the medical thermometer.	
is the rapid combination between oxygen and element heat and light.	its producing
4. The brain and the spinal cord represent	
[B] Give reasons for :	
1. We can't measure the boiling point of water by using the medical t	hermometer.
Mercury gives wide range to measure the temperature.	
2. Mercury gives wide range to measure the temperature.	
2. [A] Write the scientific term :	- 3/4
 The measuring unit of weight that is almost equal to the weight whose mass is 100 grams. 	of an object
An indicator helps us to express the state of the body from the p hotness or coldness.	ooint of ()
 A chemical substance that remains without any change in its quantity and properties during the chemical reaction. 	()
The structure which consists of 33 bony vertebrae.	()
[B] What happens when ?	
There are no spaces between the railway bars.	
Hydrogen peroxide is dropped over manganese dioxide.	
z, riydrogon peroxido is dropped over manganese dioxide.	

3. [A] Correct the underlined words:

- An object's mass on the Earth's surface is 6 kg. so its weight on the moon's surface is 600 Newton.

 The medical thermometer has a capillary tube to prevent
- mercury from going back quickly to the mercury bulb. (.....)
- 3. Ozone molecule is composed of two hydrogen atoms and one oxygen atom.
- 4. The <u>medulla ablongata</u> is responsible for keeping balance of the human body during its movement. (.....)

[B] What is the importance of ... ?

- Celsius thermometer.
- Yeast in making bread.

4. [A] Choose the correct answer :

- 1. The device of measuring weight is
 - a. sensitive scale.

b. spring scale.

c. digital scale.

- d. double pans scale.
- 2. The best metal in conducting heat is
 - a. aluminium.
- b. iron.
- c. copper.
- d. mercury.
- 3. Nitrogen is considered the main component of
 - a. starch.
- b. fats.
- c. proteins.
- d. oils.
- 4. The centers of thinking and memory lie in
 - a. medulla oblongata.

b. spinal cord.

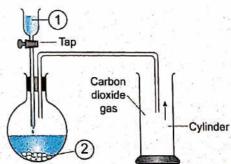
c. cerebellum.

d. cerebrum.

[B] Look at the following figure, then:

- 1. Write what represent each label on the figure :
 - a, Liquid ① is
 - b. Substance ② is
- 2. What is meant by ···?

Heat conductors.



Damietta Governorate

Science Inspectorate

Answer the following questions :	
1. [A] Complete the following :	
Weight is measured by using	and the commence of
	sed into oxygen and water in the presence
The structure that lies in front of the structure that lies in structure that l	ne cerebellum is called
4 conducts heat faster than	
[B] Mention one function : 1. Bad conductors of heat (plastic an	
2. Celsius thermometer.	
2. [A] Write the scientific term :	
A flam used in cutting and welding	ı metals
The liquid used in making thermore	motorn
3. Axis of the skeleton in the human	hody
4. The force by which a body is attra	oted to the Call
[B] What happens when ?	()
1. A medical thermometer is put in bo	oiled water.
2. Oxygen reacts with nitrogen during) lightning.
3. [A] Choose the correct answer:	
1. The weight of any body = a. its mass. c. its mass × 10.	b. its mass × 100.
When oxygen combined with an ele the mass of the element.	d. its mass ÷ 100. ment, the mass of the product is
a. equal b, more than 3. The bones of upper limb are conne a. shoulder b, sternum	c. less than d. (a) and (b)

c. humerus

d. femur

	ng point of ice is	- 27°C	d. 42°C	
a. 0°C	b. 100°C	c. 37°C	u. 42 C	
[B] Give reaso		16 V 10 V		
1. Ozone la	ayer is very important for th	e life of all livi	ng organisms.	
.,,				
2. There is	a constriction in the medic	al thermomete	er.	
4. [A] Correct th	e underlined words :	· ·		72
1. Heat is t	the degree of hotness or co	oldness of a bo)
2. An object	ct whose weight is 20 Newt	on on Earth, s	o its mass equals	<u>10 kg</u> .
			()
3. Oxygen	is produced during respira	tion process.)
	nd elbow are freely movab		<u>(</u>)
[B] 1. How ca	n you obtain carbon diox	ide from calc	ium carbonate ?	
2. How ca	an you sterillized medical	thermometer	?	
18 Kafr El-	Sheikh Governorate	De	souk Directorate	
Answer the follo	owing questions :			
1. [A] Complete	the following:	1 11 0 0 0 2		
1. The ····· unit of v	is a measuring unit oweight.			asuring
2. Oxygen	is consumed during	and	····· processes.	
3. The cer	ntral nervous system consis	ts of	and	
4. Exhaled turbid.	d air contains a large amou	nt of ······	gas that makes	

	cartilages between vert	ebrae.	
	out magoo bottoon		
[A] Choose the	correct answer :		
	erature is measured by u	ising a device calleder. c. voltameter.	
2. Nitrogen ro a. 87%	epresents of the	he Earth's atmosph c. 0.03%	nere. d. 78%
3i	is responsible for the ref		
a. Cerebri		b. Cerebellum d. Spinal cord	
4. Three Nev	vton equal the weight of	The state of the s	
a. 100 gm	b. 1000 gm.	c. 300 gm.	d. 3000 gm.
[A] Write the so	that allow heat to flow th	nrough,	······
1. Materials t			200
Materials t Chemical s	substance used to incre	ease the rate of che	emical
Materials to 2. Chemical streaction.	substance used to incre	어느 맛이 어느는 어느 이 그 맛이었다.	emical (
Materials to 2. Chemical series reaction. The building series to 3. The building series to 3.	substance used to incre	m	
Materials to 2. Chemical series reaction. The building 4. It is equal to 3.	substance used to incre ng unit of nervous syste to the mass of one liter	m	(
Materials to 2. Chemical services reaction. The building 4. It is equal to 3.	substance used to incre ng unit of nervous syste to the mass of one liter use of:	m	(
1. Materials to 2. Chemical so reaction. 3. The building 4. It is equal to [B] Mention the	substance used to incre ng unit of nervous syste to the mass of one liter use of:	m	(
1. Materials to 2. Chemical streaction. 3. The building 4. It is equal to 1. Spring scan 2. Carbon dictions (A) Put (√) or (substance used to incre ng unit of nervous syste to the mass of one liter use of : lle. exide.	m. of distilled water.	((
 Materials to 2. Chemical streaction. The building 4. It is equal to 1. Spring scan and 2. Carbon did and a contraction. Put (√) or (1. Heat is the contraction) 	substance used to incre ng unit of nervous syste to the mass of one liter use of : lle.	m. of distilled water.	((



ľ	2. Shoulder becomes slightly move			
	Behira Governorate		Kafr El-Dawar Direc	ctorate
we	er the following questions :		2	
١]	Complete the following sentenc	es:		
	1. Water is freezed at ·····°C	and boiled a	at°C.	
	The percentage of carbon dioxid	de gas in atr	mospheric air is	%
	3. Skull joints are joints.		7 69	=
	4. Mercury remains in a liquid state			
	are and and	I that gives v	vide range of temp	erature
*:	measurement.			
	What happens when ?			
	Yeast is added to dough during	making brea	ad.	
	2. The cerebellum is shocked hard	dly.		
4]	Write the scientific term :		4 88.5	400
	1. The measuring unit of weight wh	nich is almos	st equal to a mass	100 gm.
				(
	2. An instrument used for measuring	ng the tempe	grature.	(
	3. The basic structure unit of nervo	ous system.		(
	4. Materials that do not let heat flo			' 'E 'E '
	Mention the main idea of making	j thermome	iter:	
		77.72		
3]	Correct the underlined word in t			Taggi



	The nodular bacte atmospheric air.		State of the	()
	 Oxygen combines a <u>black</u> substance 		agnesium ribbon for	ming (······)
[B]	Give reasons for : 1. There is a constrict	tion in the medica	al thermometer.	
	Oxygen is collected preparation at the			in the jar during
4. [A	Choose the correct	answer:		
	1 is a bad c	onductor of heat.		
	a. Copper	b. Aluminium	c. Air	d. Iron
	2. Nitrogen is the ma	in component of -		
	a. proteins.	b. fats.	The same of the sa	d. water.
	3 is/are fro		of neuron.	
	a. Blood vessels			d. Axon
	4. The graduation of	medical thermom	eter is between	°C
	a. 42 : 35	b. 35 : 37	c. 35 : 42	d. 37:42
[B]	An object's mass = 1. Its mass on moon.	30 kg. on the Ea	rth's surface. calcu	ate :
	2. Its weight on the E	arth.		
20	Ismailia Gove	ernorate	Science Ins	pectorate
Answ	er the following que	stions :		Barrier Co.
	Complete the follow			
[7]	1. The water freezes	The state of the s	-9	
	2. The number of ver of ribs of ribcage is	tebrae of vertebra	olis at I column is,	while the number
	3. Mass is measured scale.	by scale		
	4. In photosynthesis p	process, the plant	consumed	gas and produced
and Same wife		마르게 없는다. 닭에 어떻게 돼	and the state of t	

[B] Compare between :

1. Medical thermometer and celsius thermometer according to the constriction.

Point of comparison	Medical thermometer	Celsius thermometer
Constriction :	2	

Heat conductors and heat insulators according to definition.

Point of comparison	Heat conductors	Heat insulators
Definition :		

2	. [A	Correct	the	underlined	words	
				THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.		

- 1. Legumes such as clover benefit from oxygen to make protein.
- 2. An object whose mass is 25 kg its weight equal 200 N. (....)
- (....) 3. Medulla oblongata controls the reflex action.
- 4. Iron is faster than aluminium in conduction of heat.

[B] What is the the importance of ...?

- 1.Ozone layer.
- 2. Heavy blankets and woolen clothes.

3. [A] Write the scientfic term :

- 1. Joints which allow movement in one direction. (....)
- 2. The slow combination between oxygen and elements in presence of moist air.
- 3. The force by which a body is attracted to the Earth.
- 4. The degree of hotness or coldness.

[B] Look at the following figures then answer:

- 1. Figure (a):
 - a. This apparatus used to prepare gas.
 - b. This gas is collected by

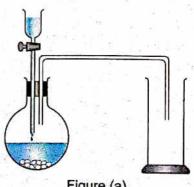


Figure (a)

2. Figure (b): What will happen	when object (A) to	ouches object (B) ?	Object A Object B 70°C 20°C
			Figure (b)
4. [A] Choose the correct	t answer :		
1. The cerebellum is			
a. thinking.		b. the body balance	ce.
c. regulating the h	eartbeats.	d. memory.	
When carbon diox formation of	ide gas is passed	in limewater, it becor	nes turbid due to
a. calcium carbon	ate.	b. calcium bicarbo	nate.
c. hydrochloric aci	id.	d. sodium bicarbo	nate.
3. The medical therm	nometer is used in	measuring the temporary	erature of
a. liquids.	b. weather.	c. the human body	
	when the	mass of the planet i	ncreases.
a. decreases		b. increases	
c. still constant		d. decreases then	increases
		rature measurement. t during preparation o	f oxygen.
21 Bani Suef Gov	vernorate	Beba Dire	ctorate
Answer the following que	stions :		
1. [A] Choose the correct	answer:		
1. The device of mea	suring weight is		
a. sensitive scale.	b. spring scale.	c. one arm scale.	d. digital scale.
The gas turbid lime	ewater is	gas	
a. oxygen	b. ozone	c. nitrogen	d. carbon dioxide
Nitrogen gas repre	esents of	the air volume.	
a. 78%	b. 87%	c. 21%	d. 50%
One of the slightly	joints are		
a. elbow.	b. shoulder.	c. thigh.	d. wrist.

2. Medical thern	nometer.			•••

[A] Put (√) or (x)	:			
	rapid combination o	biect with oxygen.	(
그 전 보다 중	esponsible for reflex		ì	
3. One newton e	equal 100 gram.		ì	
4. Copper is fas	test element to cond	uct heat.	(
[B] Give reasons for	or:			
5 5 and 1990 at 19	made up of aluminiu	ım.		
2. Carbon dioxid	de is used in extingui	shing fires.		
C Large and Assessment				
				•••
				••••
[A] Choose from c	olumn (B) what sui	ts it in column (A) :		
[A] Choose from c	olumn (B) what sui	ts it in column (A) :		
[A] Choose from c	(A)	virtual de Santa de S		
1. The back box	(A)	(B)		
	(A)	(B) a. falling rains and snow.		
1. The back bot 2. Ribcage	(A) ne sis	a. falling rains and snow. b. opposite for respiration.		
1. The back bot 2. Ribcage 3. Photosynthes	(A) ne sis	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra.	4	
1. The back boton 2. Ribcage 3. Photosynthes 4. Air pollutants	(A) ne sis 2	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra. d. protects heart and lungs.	4	
1. The back both 2. Ribcage 3. Photosynthes 4. Air pollutants 1	(A) ne sis 2 ass 12 kg on the Ea	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra. d. protects heart and lungs.	4	
1. The back bor 2. Ribcage 3. Photosynthe 4. Air pollutants 1	(A) ne sis 2 ass 12 kg on the Ea	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra. d. protects heart and lungs.	4	
1. The back boton 2. Ribcage 3. Photosynthes 4. Air pollutants 1	(A) ne sis 2 ass 12 kg on the Ea	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra. d. protects heart and lungs.	4	
1. The back boton 2. Ribcage 3. Photosynthes 4. Air pollutants 1	(A) ne sis 2 ass 12 kg on the Ea Earth. moon.	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra. d. protects heart and lungs. 3	4	
1. The back bot 2. Ribcage 3. Photosynthes 4. Air pollutants 1	(A) ne sis 2 ass 12 kg on the Ea Earth. moon.	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra. d. protects heart and lungs. 3	4	
1. The back bot 2. Ribcage 3. Photosynthes 4. Air pollutants 1	(A) ne sis 2 ass 12 kg on the Ea Earth. moon.	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra. d. protects heart and lungs. 3	4	
1. The back bor 2. Ribcage 3. Photosynthes 4. Air pollutants 1	(A) ne sis 2. ass 12 kg on the Ea Earth. moon.	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra. d. protects heart and lungs. 3	4.	
1. The back bor 2. Ribcage 3. Photosynthes 4. Air pollutants 1	(A) ne sis 2 ass 12 kg on the Ea Earth. moon.	a. falling rains and snow. b. opposite for respiration. c. 33 vertebra. d. protects heart and lungs. 3	4	

[B	Correct the underlined words	The second of the	
	1. Kilogram equals the mass of	one paper clip.	()
	2. The melting point of ice is 100	°C.	(······)
	3. Cerebrum control body balance	ce.	(········)
	4. Light is a form of energy trans	sfer from higher tem	perature
	to lower temperature.		()
adi je			
22	Minia Governorate	S	t.Mark Schools
Ansv	ver the following questions :		
1. c	hoose the correct answer :		e profesional de Maria
	1. The weight of any body	by increasing its	mass.
	a. decreases b. increases	c. still constant	d. no correct answer
	2. Which of the following is the fa	astest in conducting	heat ?
	a. Copper. b. Iron.	c. Aluminium.	d. Glass.
	3. We should sterilize the medica	al thermometer by u	sing
	a. ethyl alcohol. b. boiling wat		d. water.
	4. Hydrogen peroxide is used in		
		c. nitrogen	d. carbon dioxide
	5. The gas which makes limewat		
	a. oxygen. b. nitrogen.	c. carbon dioxide	e. d. ozone,
	6 controls the reflex act	tions.	
	a. Spinal cord b. Cerebellum		d. Brain
2. [/	A] Complete the following statem	nents :	
	Mass is measured bys scale.	scale, whereas weig	ht is measured by
	2 and are som	e usages of good h	eat conductors.
	Carbon dioxide gas is prepare over	d in laboratory by di	opping
	4. The central nervous system co	onsists ofa	nd
[8]] Classify each of the following j	oints according to	their types :
	1. Knee joint.		
.v.1	2. Shoulder joint.		()

	2. Cerebellum.		
[A] \	Write the scientific term	:	
	1. The force with which a b	oody is attracted to the Ea	rth. (
2	2. The gas that forms 21%	of the volume of air.	(
;	3. A gas that is called azot	e which means lifeless.	(
	4. Linked to the brain throu	ugh the spinal cord and is	
	involuntary actions.		(
[B] I	If an object's its mass 30	kg on the Earth, calcula	ate:
	1. Its mass on the moon.		-
	2. Its weight on the Earth.		
[C]	Give reasons for :		
	1. Carbon dioxide is used	in extinguishing fires.	
	2. The backbone is very in	nportant.	
[A]	Compare between the m	edical thermometer and	celsius thermometer
	Points of comparison	Medical thermometer	Celsius thermomete
	1275 17.75 706 17.55 1		***************************************
	1. Scale :		

	B] Put (√) or (x):		
	1. Kilogram nearly equals the mass of one paper clip.	()
	2. All metals are good conductors of heat.	()
	3. Oxygen combines with burning magnesium ribbon forming a white		
	substance.	()
	4. There are 12 pairs of spinal nerves and 31 pairs of cranial nerves.	()
	[C] Mention two uses of carbon dioxide gas.		
	1	••••••	••••
	2	*******	••••
2	Assiut Governorate Manflout Directorate		
Ans	swer the following questions :		
1.	[A] Complete the following :		
	1. The weight of the body is measured by		
	2. The gas used to filling car tiers.		
	3. All metals are conductors of heat.		
	4. The number of vertebra of backbone is		
. 4	[B] If an object's mass is 30 kg. on the Earth, calculate :		
	1. Its mass on the moon.		
172	2. Its weight on the Earth.		
2.	[A] Put (✓) or (×):		
	Aluminium is a bad conductor of heat.	()
. 65	2. Myelin sheath surround the nerve cell axon.	()
	그는 그리고 하게 하는 어느로 그녀가 되었다. 그 가게 되었다면 가고 없었다. 그리고 나를 가지 않는 것이 되었다면 되었다. 그리고 그리고 그리고 그리고 있다면 가지 않는다.		
	3. Oxygen gas occupies 78% of the atmospheric air componets	1)
	 Oxygen gas occupies 78% of the atmospheric air componets. Mass has no direction. 	()
		()

[A] Write the scientif	ic term :		
 An organ respor 	nsible for the refle	x actions of body.	(·······
2. A flame used in	cutting and weldir	ng metals.	(
3. Materials that do		- 00 to 10 to 10 to 10 to 1	(
4. The amount of r	natter in an objec	t.	(
[B] Give reasons for	:		
1. Ozone layer is v	ery important for	our life.	
2. Brain is located	inside the skull.		
*			
[A] Choose the corre			
		rmometer is	
		rmometer is	d. oil.
1. The used liquid	in the celsius the b. water.	c. mercury.	d. oil.
 The used liquid a. alcohol. is bad a. Copper 	in the celsius the b. water. conductor of heat b. Glass	c. mercury. c. Iron	d. Aluminium
 The used liquid a. alcohol. is bad a. Copper 	in the celsius the b. water. conductor of heat b. Glass	c. mercury.	d. Aluminium
 The used liquid a. alcohol. is bad a. Copper resport 	in the celsius the b. water. conductor of heat b. Glass	c. mercury. c. Iron	d. Aluminium dy.
 The used liquid a. alcohol. is bad a. Copper resport 	in the celsius the b. water. conductor of heat b. Glass asible for involuntation b. Cerebellum	c. mercury. c. Iron ary processes of the bo c. Medulla oblongata	d. Aluminium dy.
1. The used liquid a. alcohol. 2is bad a. Copper 3respor a. Spinal nerve	in the celsius the b. water. conductor of heat b. Glass asible for involuntation b. Cerebellum	c. mercury. c. Iron ary processes of the bo c. Medulla oblongata	d. Aluminium dy.
1. The used liquid a. alcohol. 2is bad a. Copper 3respor a. Spinal nerve 4gas us a. Oxygen	in the celsius the b. water. conductor of heat b. Glass asible for involuntable b. Cerebellum sed in extinguished b. Methan	c. mercury. c. Iron ary processes of the bo c. Medulla oblongata d firs.	d. Aluminium dy. d. Brain
1. The used liquid a. alcohol. 2 is bad a. Copper 3 respor a. Spinal nerve 4 gas us a. Oxygen [B] Look at the figur	in the celsius the b. water. conductor of heat b. Glass asible for involuntable b. Cerebellum sed in extinguished b. Methan e, then answer:	c. mercury. c. Iron ary processes of the bo c. Medulla oblongata d firs. c. Nitrogen	d. Aluminium dy. d. Brain d. Carbon dioxid
1. The used liquid a. alcohol. 2 is bad a. Copper 3 respor a. Spinal nerve 4 gas us a. Oxygen	in the celsius the b. water. conductor of heat b. Glass asible for involuntable b. Cerebellum sed in extinguished b. Methan e, then answer:	c. mercury. c. Iron ary processes of the bo c. Medulla oblongata d firs. c. Nitrogen	d. Aluminium dy. d. Brain d. Carbon dioxid

24	Sohag Governor	rate	Science Inspectorate
Answ	er the following question	ns :	
1. [A]	1is a good cond		
	a. Glass		c. Wood
S. A.	2 protects the E	arth from harmful radial	tion that comes from the Sun.
	a. Carbon dioxide gas		c. Oxygen gas
	3. The cerebellum is resp	onsible for	
	a. voluntary actions.	b. memory.	c. keeping the body balanced
	4. The amount of matter i	n an object is	
	a. mass.		c. weight.
[B]	If an object's mass = 30	kg. calculate :	
100	1. It's weight on Earth =		
	2. It's weight on moon =		
7 [A] Put (√) or (×) :		
- I	Nitrogen gas occupies	78% of the atmosphere	air components (
	2. Mass is measured by N		dii dempenente.
	3. The number of cranial		
	4. Heat transfers from ho	the second secon	
(D)	Compare between celsi		nodical the was a sector .
[D	Consequences of the Consequence		UKS TORON AT THE WORLD
	Points of comparison	Celsius thermomete	r Medical thermometer
	1. Range of scale :		
	1. Kange of scale .		
1.5	2 Hauses		
	2. Its uses :		

3. [A] Write the scientific term: 1. It is composed of the skull, the backbone and ribcage. 2. The force by which object is attracted to the Earth. 3. It is the basic structure unit of the nervous system. 4. A gas turbids the clear limewater. [B] Give reasons for: 1. Nitrogen gas is called azote means lifeless gas.

Handles of cooking pots are made of the	of wood or plastic.
[A] Complete the following :	
1. The device of measuring mass is ···	
2. The knee joints is form of	
Oxygen gas is collected by displaci	
4. In process plants absorb of	carbon dioxide gas and produce oxygen
[B] What is the name of the figure ?	(b) (a)
Label the figure : a b	
Qena Governorate	Qena Directorate
nswer the following questions :	
scale.	le, while weight is measured by
2. The scale of medical thermometer°C.	
3. Oxygen is prepared by decomposit	tion of in presence of
The main control center in your boo a bony case called	dy is and it is found inside
[B] An object, its weight on moon's su	rface is 10 Newton. calculate :
1 Its weight on the Earth's surface.	
2. Its mass on the Earth's surface.	
[A] Choose the correct answer :	
1. As a result of heat flow through me	
a. expand. b. contract.	c. constant. d. (a) and (b)
	ding dilute hydrochloric acid tob. calcium carbonate.
	D. Calcium Carbonate.
a. calcium oxide. c. calcium hydroxide.	d. calcium chloride.

Reflex action takes place through		
a. medulla oblongata. b. cerebrum.	c. cerebellum.	d. spinal cord.
4. Femur bone is attracted to		
a. shoulder. b. pelvic.	c. ribecage.	d. humerus.
[B] What happens when ?		
 A body moves away from the center 	of the Earth.	
Medical thermometer is put in boiled	d water.	
3. [A] Write the scientific term :		T
1. A gas composed of three oxygen ato	oms.	()
2. The amount of matter in an object.		()
3. The location at which bones meet ea	ach other.	()
4. A gas that composes the protein sub	stance that builds up	
out bodies.		()
[B] Give reasons for each :		
Copper is good conductor of heat.		
Cerebellum is very important for hum		
4. [A] Put () or (x) in front of the following	ng :	
 Knee is freely movable joint. 		()
Heat transfers from cold object to hold	t object.	()
Backbone consists of 33 vertebrae.		()
4. Nitrogen is used in making soft drinks	S.	()
[B] Look at the figure, then answer:	•	
1. This figure represents	L. W.	
2. Label the figure :	The same of the sa	©
(a)	7	
(b)	SAKIN	1 %
©	a	***



SERIES



Solution of Supervisors

Guide Answers

By A Group of Supervisors



Contents



Part

· Guide Answers of The Main Book

Part

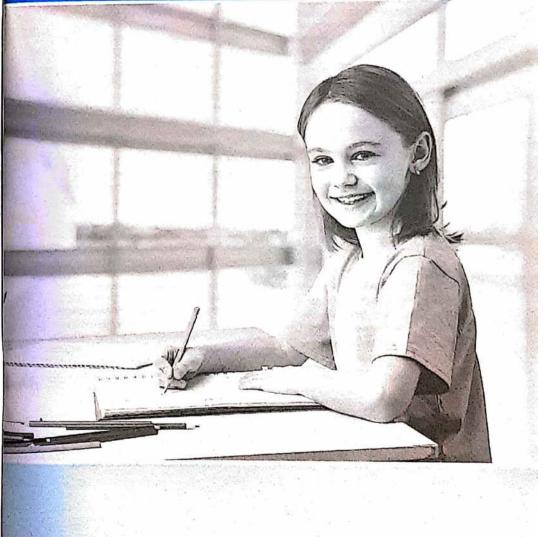
• Guide Answers of Worksheets

Part

• Guide Answers of Final Examinations Pages (36: 45)

PART

Guide Answers of The Main Book





Unit One

The lesson

- 1. 1. a. mass.
 - 2. a. gram and kilogram.
 - 3. b. Gram
- 4. a. Kilogram
- 5. b. Kilogram
- 6. c. 500
- 7. c. spring scale.
- 8. a. Weight 10. c. 100
- 9. a. Newton
- 12. c. its mass x 10
- 11. d. spring scale.
- 14. b. Increases
- 13. b. 2 kg.
- 15. b. Earth
- 16. b. decreases
- 17. c. 100
- 18. d. 10 Newton.
- 20. a. decrease
- 19. b. 10 kg.
- 21. d. 71 Newton.
- 22. a. 2 3. a
- 2. 1. d 2. c 3. 1. (x) Mass is ...
 - 2. (x) ... the Earth's surface equals its mass ...
 - 3. (x) The mass is ...
 - 4. (x) Gram nearly equals ...
 - 5. (x) Kilogram is ...
- 6. (1)

4. b

- 7. (x) ... as gold and chemicals.
- 8. (x) ... measuring mass of ...
- 9. (x) ... equals 1 kilogram.
- 10. (x) ... Is equal to its mass ... 11. (1)
- 12. (x) ... towards the center of the Earth.
- 13. (1)
- 14. (x) ... equals 20 Newton.
- 15 (x) ... by the spring scale.
- 16. (1)
- 17. (x) ... weight increases.
- 18. (x) ... equals 10 Newton.
- 19. (x) ... on it increases.
- 20. (x) ... is 100 Newton.
- 21. (x) ... decreases as ...
- 4. 1. Mass.
- 2. Gram.
- 3. Kilogram.
- 4. Balance scale.
- 5. Kilogram.
- 6. Sensitive two-arms scale.
- 7. Weight (gravitational force).
- 8. Weight.
- 9. Newton.
- 10. The spring scale. 11. Weight on the Earth.
- 12. Mass.

- 5. 1. Mass
- 2. increases
- 3, changing the place, 4, equals
- 5. Gram kilogram 6. One kilogram
- 7. jewellery kilogram fruits.
- 8. two-arms scale one-arm scale.
- 9. Balance scale sensitive scale
- 10. Balance sensitive two-arms
- 11. one-arm digital scale one-arm scale with a pointer.
- 12. the place.
- 13, the center of the Earth.
- 14, gravitational force.
- 15. gram kilogram Newton.
- 16. Newton spring
- 17. balance scale spring scale
- 18. the object's mass the planet (place) where the object exists - the distance between the object and the center of the planet.
- 19. increases.
- 20. Weight of the object on the Earth
- 21. weight mass
 - 22. one sixths $(\frac{1}{6})$
- 23, increases
- 24. center
- 25. increase increases.
- 26. constant variable.
- 27, the mass the weight.
- 6. 1. Because the mass of the body is a fixed value and it doesn't change by changing the place.
 - 2. Due to the effect of weight (gravitational force).
 - 3. To avoid any vibration of the balance scale.
 - 4. Because the mass of the moon is less than the mass of the Earth, so the gravity of the moon is less than that of the Earth.
 - 5. Because the Earth has greater mass and gravitational force than the moon.
 - 6. Because the gravitational force of the Earth to the person in the balloon decreases as we go away from the center of the Earth.
 - 7. Because the gravity of a planet depends on its mass, so the weight of any object will change from a planet to another.

8. Because the gravitational force of the Earth attracts the hanged body downward. that causes the expand of the wire of spring scale.

- 9. Because as the object's mass increases. its weight increases and vice versa
- 7. 1. The amount of matter in an object.
 - 2. It is one of the measuring units of mass that nearly equals the mass of one paper clip.
 - 3. It is one of the measuring units of mass that equals the mass of one liter of distilled water.
 - 4. It is the force by which a body is attracted to the Earth.
 - 5. It is the measuring unit of weight and it is almost equal to the weight of an object on the Earth whose mass is 100 grams.
 - 6. This means that the amount of matter in the small watermelon equals 500 grams.
 - 7. This means that the gravitational force which altracts the body to the Earth equals 1 Newton.
- 8. 1. The object pulls the wire of the spring downward and the reading of the pointer increases.
- 2. Its weight increases.
- 3. The weight of this object decreases to half.
- 4. The weight of this object increases.
- 5. All objects on the Earth's surface don't have weight.
- 6. The weight of a toy car on the moon's surface equals one sixth $(\frac{1}{6})$ of its weight on the Earth's surface.
- 7. The weight of the person decreases as the gravitational force of the Earth to this person decreases.
- 8. The weight of the body decreases to 10 Newton.
- 9. 1. It attracts all the objects towards the center of the Earth.
 - 2. It is used to measure the large masses as cheese and vegetables.
 - 3. It is used to measure small masses as gold and chemicals.
 - 4. It is used to measure the large masses.
 - 5. It is used to measure the weight of any

10.

Points of comparison	Mass	Weight
Definition:	It is the amount of matter in an object.	It is the gravitational force by which the bod is attracted to the Earth.
Measuring units :	Kilogram or gram.	Newton.
Measuring devices :	- Balance scale Sensitive scale Digital scale One-arm scale with a pointer.	Spring scale.
The direction of its effect :	It has no direction.	Its effect is always directed towards the center of the Earth (downward)
The effect of changing the place :	Constant. (It does not change with changing the place).	Variable, (It changes with changing the place).

11. The factors affecting weight are :

- 1. The object's mass.
- 2. The planet (place) where the object exists.
- 3. The distance between the object and the center of the planet.

12. 1. The object's weight

- = Its mass (kg.) x 10
- = 30 × 10 = 300 Newton.
- 2. The object's weight on the Earth
 - = Its mass (kg.) x 10
 - $= 6 \times 10 = 60$ Newton.
 - The object's weight on the moon
 - = Its weight on the Earth $\times \frac{1}{E}$

$$= 60 \times \frac{1}{6} = \frac{60}{6} = 10 \text{ Newton.}$$

- 3. The mass of liquid = 186.73 119.76 $= 66.97 \, \text{gm}.$
- The mass of liquid (kg.) = 66.97 + 1000 = 0.06697 kg.
- The weight of liquid = Mass (kg.) x 10 $= 0.06697 \times 10$

= 0.6697 Newton.

- 4. The object's weight on the moon = Its weight on the Earth $\times \frac{1}{6}$ = $6 \times \frac{1}{6}$ = 1 Newton.
- 5. a. The object's mass on the moon = Its mass on the Earth = 30 kg.
- b. The object's weight on the Earth
 = Its mass (kg.) × 10
 = 30 × 10 = 300 Newton.
- c. The object's weight on the moon $= 300 \times \frac{1}{6} = 50$ Newton.
- 6. a. The body's weight on the moon = Its weight on the Earth $\times \frac{1}{6}$
- 20 = Its weight on the Earth $\times \frac{1}{6}$ The weight on the Earth = 20 \times 6 = 120 Newton.
- b. The body's weight on the Earth = Its mass (kg.) × 10
 - 120 = Its mass × 10

The mass of the body = $\frac{120}{10}$ = 12 kg.

- 7. a. The object's mass on the moon = $200 \text{ gm.} = \frac{200}{1000} = 0.2 \text{ kg.}$
- b. The object's weight on the Earth = Its mass (kg.) × 10 = 0.2 × 10 = 2 Newton.
- 8. a. Weight on the Earth = Mass × 10 600 = Mass × 10

Mass on the Earth = $\frac{600}{10}$ = 60 kg.

- b. Mass on the moon = 60 kg.
- c. Weight on the moon
- = Weight on the Earth $\times \frac{1}{8}$
- = $600 \times \frac{1}{6} = 100$ Newton.
- 13. 1. increases.
 - 2. Weight on the Earth (Newton) = Mass (kg.) × 10
- 14. 1. It is the amount of matter in an object.
 - It is the gravitational force by which a body is attracted to the Earth.
 - 3. Gram or kilogram. 4. Newton.
 - 5. Balance scale. 6. Spring scale.
 - 7. It has no direction.

- Its effect is directed towards the center of the Earth (downward).
- 9. constant. 10. variable.

Thinking Skills Questions

1. First way

Group ①	Group 2
Gram – Kilogram	Newton –
Balance scale – Sensitive scale	Spring scale

Second way

Group 1	Group ②	
Gram – Kilogram	Balance scale – Sensitive scale	
Newton	Spring scale	

- 2. d.
- 3. 1. b. less than
- 2. a. 285
- 4. The weight of one small ball $= \frac{150}{30} = 5 \text{ Newton.}$
 - The mass of one small ball = $\frac{5}{10}$ = 0.5 kg.
- 5. a. It is heavier than cubes 1,3 and 4.

Project On UNIT ONE Answer by Yourself

Unit Two

Lesson 1

- 1. 1. c. a hot object to a cold object.
 - 2. a. from hand to ice. 3. a. temperature.
 - 4. b. lemperature.
- 5. c. Copper
- 4. b. temperature.
- 6. c. glass and wood. 7. b. Glass
- B b doesn't let heat flow through.
- 9. b. allows heat to flow through.
- 10. b. leaving spaces between the railway bars.
- 11. c. prevents the leakage of heat.
- 12, a. expand.
- 13. a. Copper.
- 14. a. cooking pots.
- 15. a. cooking pots and kettles,
- 16. b. plastic.
- 17. a. body warm.
- 1. (x) the higher temperature object to the lower one.
 - 2. (x) ... from hot object to cold object.

- 3. (x) All metals are ...
- 4. (x) ... are thermometers
- 5. (x) Temperature is ...
- 6. (x) ... and aluminium allow ...
- 7. (x) Iron is ...
- 8. (1)

11.(1)

- 9.(1)
- 10. (x) Plastic is ...
- IO. (X) Flastic is ...
- 12. (x) ... that insulate heat .
- 13. (x) ... at different rates.
- 14. (x) ... than iron.
- 15. (x) ... slower than ...
- 16. (x) ... of aluminium
- 17. (x) ... of wood or plastic.
- 18. (x) Iron is ...
- 19. (x) ... the body warm.
- 3. 1. Heat.

 - 3. Temperature.
- Heat.
 Temperature.
- 5. Thermometer.
- Heat conductors.
- 7. Heat insulators.
- Copper.
- 9. Heat conductors.
- 10. Woolen clothes
- 11. Heat insulators.
- 4. 1. higher lower
- energy.
- Warming cooking drying washed clothes
- 4. glass paper.
- 5. hotness coldness
- 6. Temperature
- thermometers.
 copper aluminium

- Cooking

- 8. good bad 10. paper – plastic.
- 11. good
- Heat conductors
 Heat insulators
 Aluminium a bad heat conductor.
- 15, the insulating glass windows
- 15. the insulating glass windows
 16. Copper 17. bad good
- 16. Copper 18. Wood – plastic
- 19. making cooking pots making kettles.
- making heavy blankets making the handles of cooking pots.
- 21, bad woolen dothes
- 22. aluminium plastic.
- 5. 1. Because it is used in
 - Warming houses.
 Heating water.
 - Drying washed clothes

- Because it is used in making and processing food, glass, paper and toylies
- 3. Because they allow heat to flow through.
- Because they don't allow heat to flow through.
- Because wood doesn't let heat flow through, while copper lets heat flow through.
- 6. To prevent the leakage of heat.
- To avoid train accidents where iron is a good heat conductor that expands and twists by heat.
- Because plastic doesn't let heat flow through, while copper lets heat flow through.
- Because copper conducts heat faster than aluminium and iron.
- Because they let heat flow through as they are good conductors of heat.
- Because they don't let heat flow through as they are bad conductors of heat.
- Because they are used in making cooking pots (utensils) and kettles that are used in houses and factories.
- To keep our bodies warm as they prevent the leakage of heat.
- Because aluminium is a good conductor of heat, while plastic and wood are bad conductors of heat.
- 6. 1. I feel cold, due to the transfer of heat from my hand to the piece of ice.
 - 2. I feel hot, due to the transfer of heat from the hot cup of tea to my hand.
 - I feel hot, because copper is a good conductor of heat.
 - I don't feel hot, because glass is a bad conductor of heat.
 - Heat doesn't transfer from one body to the other as they have the same temperature.
 - 6. Train accidents will occur.
 - 7. We can't hold them with our hands as stainless steel is a good conductor of heat.
 - We can't make handles of cooking pots and also we can't make heavy clothes that keep us warm in winter.

- 7. 1. It is a form of energy that transfers from the higher temperature object to the lower temperature object.
 - 2. It is the degree of hotness or coldness of
 - 3. They are the materials that let heat flow
 - 4. They are the materials that do not let heat flow through.
- 8. 1 It is used in :
 - Warming.
 - Cooking.
 - Heating water.
 - Drying washed clothes.
 - Making and processing food, glass, paper and textiles.
 - 2. They are used in making cooking pols (utensils) and kettles.
 - 3. They are used in:
 - Making the handles of :
 - · Cooking pots.
 - · Kettles.
 - · Electric Iron.
 - Making the heavy blankets and woolen
 - 4. They are used in making cooking pots (utensils) and kettles.
 - 5. They are used in making the handles of :
 - · Cooking pots (utensils).
 - · Kettles.
 - · Electric Iron.
 - 6. They keep our bodies warm as they are heat insulators.
 - 7. It helps us to hold the hot cooking utensils as it is a heat insulator.

Heat conductors	Heat Insulators
- Copper.	- Plastic.
Stainless steel.	- Glass.
- Iron.	- Paper.
- Aluminium,	- Wool.
	- Air.
	- Wood

10.

Point of comparison	Heat	Temperature
Definition :	It is a form of energy that transfers from the higher temperature object to the lower temperature object.	It is the degree of hotness or coldness of a body.

Points of comparison	Good conductors of heat	Bad conductors of heat
Definition :	They are the materials that let heat flow through.	They are the materials that don't let heat flow through.
Examples :	Copper, aluminium, iron and stainless steel,	Glass, wood, paper, plastic, air and rubber.
Usages :	In making : - Cooking pols Kettles.	In making: - The handles of: cooking pots, electric iron and kettles. - Heavy blankets and woolen clothes.

- 11. 1. The rod (a), because the pin falls from it faster than the other rod.
 - 2. We conclude that copper conducts heat faster than aluminium.

Thinking Skills Questions

- 1. b. The temperature of water gets warmer and the temperature of egg gets colder.
- 2. 1. A-O
 - 2. Because copper conducts heat faster than aluminium.
- 3. c. higher in the copper can than in the iron can.
- 4. 1. Fig. (a).
 - 2. Because the aluminium handle allows heat to flow through, while the wooden handle doesn't allow heat to flow through.

Lesson 2

- 1. 1. c. Thermometer
 - 2. b. the change of liquid volume with the change in temperature.
 - 3. b. Medical thermometer
 - 4. b. constriction
- 5. c. mercury.
 - 6. c. 35°C to 42°C.
 - 7. a. Celsius thermometer.
 - 8, a. patient's temperature.
 - 9. d. mercury.
- 10. a. 0°C.
- 11. b. zero°C to 100°C. 12. b. The Medical
- 13. b. prevent mercury from returning back to the bulb quickly.
- 14. a. ethyl alcohol.
- 15. b. force the mercury back into the bulb.
- 16. d. increases regularly and expands.
- 17. c. gives a limited extend to measure the temperature.
- 18. c. (- 39: 357)
- 19. b. the presence of constriction in the capillary tube.
- 20. d. 10
- 21. c. water

3. (1)

- 2. 1. (x) ... by thermometers.
 - 2. (x) ... the volume ...

 - 4. (x) ... has a constriction to ...

 - 5. (x) ... 35°C to 42°C.
 - 6. (x) ... the medical thermometer ...
 - 7. (x) ... 10 parts.
 - 8. (x) ... 35°C to 42°C ...

 - 9. (x) You should sterilize ... 10. (1)
 - 11. (x) The medical thermometer ...
 - 12. (x) ... medical thermometer.

 - 13. (x) ... is 37°C.
- 14. (x) ... Celsius thermometer ...
- 15. (x) ... is mercury
- 16. (x) The Celsius thermometer ..
- 17. (x) ... good conductor ...
- 18. (x) ... a wide range ...
- 19 (x) Mercury ...
- 20. (x) ... zero°C.
- 21. (x) ... water boiling.
- 22. (x) Mercury is ...

- 1. Thermometer.
 - 2 Medical thermometer.
 - 3. Celsius thermometer.
 - 4. Mercury.
- 5. Ethyl alcohol.
- 6. Constriction.
- 7. Medical thermometer.
- 8. Digital thermometer.
- 9. Celsius thermometer. 10. Zero°C.
- 11. 100°C.
- 12. Mercury.
- 4. 1. Thermometer
- 2. expand contract
- 3. volume temperature
- 4. medical thermometer Celsius thermometer.
- 5. a device used to measure the temperature.
- 6. medical
- 7. mercury a capillary tube
- 8. constriction
- 9. medical
- 10. constriction
- 11. 35°C 42°C.
- 12. $10 \frac{1}{10}$
- 13. mercury.
- 14, measuring the temperature of liquids measuring the temperature of human body.
- 15. a mercury a capillary tube
- 16.0°C 100°C.
- 17. ethyl alcohol medical
- 18. liquid good
- 19. stick capillary tube.
- 20. The Celsius thermometer the medical thermometer
- 21. Medical Celsius
- 22.0 100
- 23. temperature.
- 24. (- 39°C) (357°C).
- 1. Because the sense of touching helps us to know if the object is hot or cold only, but it can't measure the temperature accurately.
 - 2. To prevent mercury from returning back to the mercury bulb quickly in order to read the measurement easily.
 - 3. To sterilize the medical thermometer before using.
 - 4. To force the mercury back to the mercury
 - 5. Because mercury inside the thermometer is a toxic substance.



- 6. Because the scale of the medical thermometer ranges from 35°C to 42°C and the temperature of iced water is zero*C.
- 7. Because the scale of the medical thermometer ranges from 35°C to 42°C. while the temperature of boiling water is 100°C, so the medical thermometer will break.
- 8. Because mercury :
 - a, is a liquid metal that can be seen easily through the thermometer glass.
 - b. is a good conductor of heat.
 - c, is a regular expanding material.
 - d. doesn't stick to the walls of the capillary tube.
 - e, gives a wide range to temperature measurement
- 9. Because it remains in a liquid state between (- 39°C) and (357°C).
- 10. Because liquid expands by heating and contracts by cooling
- 6. 1 The medical thermometer will be damaged, because the boiling point of water is 100°C.
 - 2. The mercury will return back quickly to the mercury bulb before determining the temperature reading.
 - 3. The thermometer can't measure the temperature accurately, because water is not a regular expanding material.
 - 4. We can't measure the temperature accurately.
 - 5. We may be infected with some diseases.
 - 6. Mercury will expand regularly.
- 7. 1. They are used to measure the temperature.
 - 2. It is used to measure the temperature of human body.
 - 3. It is used to measure the temperature of liquids
 - 4. It expands and contracts regularly according to the change in temperature. in order to determine the temperature of objects.

- 5. It prevents mercury from returning back to the bulb quickly in order to read the measurement easily.
- 6. It is used to sterilize the medical thermometer.
- 8. 1. (1) Constriction.
- (2) Mercury bulb.
- (3) Capillary tube. (4) Thick glass tube.
- 2. the medical thermometer the temperature of human body.
- 3. It prevents the mercury from returning back to the mercury bulb quickly in order to read the measurement easily.
- 4. 35°C 42°C.
- 9. 1. 1 Thick glass tube. (2) Capillary tube. (3) Mercury bulb.
 - melting ice freezing water.
 - 3. boiling water.
 - 4. the temperature of liquids.
- 10. Look at the main book on page (64).

Thinking Skills Questions

- 1. No.
 - Because the temperature of the boiling water is 100°C, while the scale of the medical thermometer is from 35°C to 42°C, so the medical thermometer will be damaged.
- 2. a. Liquid ©.
- b. Liquid (b).
- c. Celsius thermometer.
- 3. 1. __ d__ A
- 3. ___ a __ D
- 5 ___ b ___ c
- 4. 1. increases heating.
 - 2. decreases cooling.
 - 3. heating cooling.
- Project on UNIT TWO Answer by Yourself

Unit Three

Lesson 1

- 1. 1. c. 21%
- 2. b. nitrogen
- 3. d. carbon dioxide, water vapour and other
- 4. c. Nitrogen, oxygen and carbon dioxide.
- 5. d. Ammonia.
- 6. b. it absorbs ultraviolet radiations.
- 7. a. photosynthesis
- 8. b. 1/5
- 9. d. oxygen gas. 10. a. oxygen
- 11. d. oxygen gas.
- 12. b. O.
- 13. c. photosynthesis 14. a. oxygen
- 15. b. oxygen gas.
- 16, b. Manganese dioxide
- 17, a. water and oxygen.
- 18. a. Oxygen
 - - 19. a. heavier
- 20. a. scarcely
- 21, a, more than
- 22. a. magnesium oxide.
- 23. c. three
- 24, a. burning
- 25. b. two hydrogen and one oxygen
- 26. a. Oxygen
- 27. d. photosynthesis process.
- 28. d. acetylene and oxygen.
- 29. d. Ozone layer
- 30. c. 3500°C.

3. (1)

5. (1)

- 2. 1. (1)
 - 2. (x) ... two oxygen atoms.
 - 4. (x) Nitrogen gas ...
 - 6. (x) ... absorbs carbon dioxide and produces oxygen gas.
 - 7. (x) ... of manganese dioxide.
 - 8. (x) Manganese dioxide ...
 - 9. (x) Hydrogen peroxide decomposes into water and oxygen ...
 - 10. (x) ... doesn't burn, but helps in burning. 12. (1)
 - 11.(1)
 - 14. (1) 13. (x) ... scarcely dissolves ...
 - 15. (x) ... increases after ...
 - 17. (1) 16. (1)
- 18. (x) ... three atoms ...
- 19. (x) ... ozone gas ...
- 20. (1)
- 21. (1)
- 22. (1)

1. oxygen

7. white

- 2. hydrogen.
- 3. Oxygen
- 4. Oxygen
- 5. water.
- 6. water 8. Oxygen

11. two

- 9. cutting and welding metals.
- 10. Water
- 12. photosynthesis 13, three oxygen
- 4. 1. The atmosphere.
- 2. Nitrogen gas.
- 3. Oxygen gas.
- 4. Dust particles and smoke.
- 5. Oxygen gas.
- 6. Photosynthesis process.
- 7. Oxygen gas.
- 8. Oxygen gas.
- 9. Catalyst.
- 10. Manganese dioxide.
- 11. Hydrogen peroxide. 12. Oxygen gas.
- 13. Downward displacement of water.
- 14. Antoine Lavoisier.
- 15. Magnesium oxide. 16. Oxidation.
- 17. Burning (combustion).
- 18. Magnesium oxide. 19. Ozone layer.
- 20. Ozone gas.
- 21. Acetylene gas.
- 22. Oxy-acetylene flame.
- 1. gases the Earth. 2. gravity.
 - 3 21 % 4. 1%
- condensation rain snow.
- Carbon dioxide oxygen 7. two - ozone
- 8. green plants photosynthesis
- 9, respiration combustion
- hydrogen peroxide manganese dioxide
- 11. oxygen water. 12. water.
- 13. quantity structure 14. Antoine Lavoisier 15. water.
- 16. heavier 17. Oxygen
- 18. elements oxides.
- 19. Oxygen Magnesium oxide.
- 21. oxidation. 20. burning.
- 23. Rusting of iron 22. iron oxide. 25. increases
- 24. paints rusting. 26. Water 27. ozone
- 28. Mechanical ventilation respiration

- 29. Oxygen iron cylinders
- 30. decreases 31. oxygen
- 32 oxy-acetylene flame.
- 33. cutting welding
- 34. 3500
- 1. Because the consumed oxygen gas during respiration and combustion processes is compensated by the green plants during photosynthesis process.
 - Because they help in the condensation of water vapour in air and falling rains or snow.
 - 3. Because the atmosphere :
 - Absorbs ultraviolet radiations coming from the outer space.
 - Adjusts the temperature of the Earth's surface.
 - 4. Because oxygen scarcely dissolves in water.
 - Because it acts in this reaction as a catalyst.
 - Because it remains without any change in its quantity and structure during the chemical reaction.
 - 7. Because oxygen is heavier than air.
 - 8. Because oxygen gas helps in burning.
 - Because oxygen combines with iron (cleansing wire) forming iron oxide that its mass is higher than that of iron.
 - Because rusting of Iron causes corrosion and damage of ironware such as bridges' pillars
- Because Iron combines with oxygen of air in the presence of moisture (water) forming a layer of rust that causes corrosion.
- 12 Because the percentage of oxygen gas decreases when we rise above the Earth's surface.
- Because the temperature of oxy-acetylene flame reaches 3500°C which is sufficient to cut or weld metals.
- Because it protects the Earth from harmful radiations that come from the Sun.
- Because oxygen gas is necessary for respiration under the water surface
- To protect them from iron rusting that causes corrosion and damage of the pillars of bridges.

- 7. Properties of oxygen gas :
 - It is a colourless, tasteless and odorless gas.
 - It scarcely dissolves in water.
 - It doesn't burn, but it helps in burning.
 - It is heavier than air.
 - It combines with lighted magnesium forming magnesium oxide (white matter).
- 8. 1. It is a mixture of gases surrounding the Earth.
 - It is a rapid combination between oxygen and an element producing heat and light.
 - It is a slow combination between oxygen and an element in the presence of moisture (water).
 - It is a chemical substance that remains without any change in its quantity and structure during the chemical reaction.
- 9. 1. It protects Earth from the harmful radiations that come from the Sun.
 - 2. It is used in cutting and welding metals.
 - It protects the Earth by absorbing ultraviolet radiations coming from the outer space.
 - It adjusts the temperature of the Earth's surface.
 - 4. It acts as a catalyst.
 - It dissociates in the presence of manganese dioxide into oxygen and water.
- Hydrogen peroxide is decomposed into water and oxygen gas in the presence of manganese dioxide.
- 11. Look at the main book on pages (85&86).
- 12. 1. The ultraviolet radiations will reach the Earth from the outer space,
 - The temperature of the Earth will be variable.
 - Living organisms cannot respire, so they will die.
 - Iron will combine with oxygen in the presence of moisture (water), so iron nails will rust.
 - The harmful radiations coming from the Sun will reach the Earth and cause harms to living organisms.

- Magnesium oxide which is white matter is formed.
- The living organisms can't respire and the combustion process doesn't occur.
- 7. The burning fragment is still burning.
- Its mass increases after burning due to the combination with oxygen.
- Hydrogen peroxide is decomposed into water and oxygen gas, while manganese dioxide doesn't change in its quantity or structure.
- The bridges' pillars will rust causing damage to the bridges.

13.

Points of comparison	Oxidation	Burning
Definition:	It is a slow combination between oxygen and an element in the presence of moisture (water).	It is a rapid combination between oxygen and an element producing heat and light.
Example :	Iron rusting.	Burning a piece of cleansing wire.

- 14. ① Light energy.
- (2) Carbon dioxide
- Water and mineral salts.
- Oxygen
- 15. a. ① Faucet (tap).
 - Hydrogen peroxide.
 Manganese dioxide.
 - (4) Water.
 - (5) Oxygen gas.
 - b. It is collected by downward displacement of water, because oxygen scarcely dissolves in water.
- 16. We cannot control burning processes as oxygen helps in burning.

Thinking Skills Questions

- 1. 1. ozone
- 2. water
- 2. d. Because this keeps oxygen from reaching the fire.

- 3. Figure (a).
 - Because gases don't have definite volumes or shapes.
- 4. c. 0.3
- 5. 1. c. burning
- 2. b. oxidation

Lesson 2

- 1. 1. b. 0.03%
 - c. one carbon alom and two oxygen atoms.
 - 3. c. carbon dioxide. 4. b. CO.
 - 5. b. photosynthesis process.
 - 6. c. carbon dioxide
 - 7. d. carbon dioxide
 - 8. a. calcium carbonate.
 - 9. c. carbon dioxide
 - 10. a. upward displacement of air.
 - 11, c. Carbon dioxide
 - 12. c. displacement of water.
 - 13. a. carbon dioxide
 - 14. b. calcium carbonate
 - 15. b. magnesium oxide and carbon.
 - 16. c. carbon dioxide
 - 17. a. carbon dioxide
 - 18. c. carbon
- 19. d. soft drinks.
- 20. d. carbon dioxide gas
- 21. b. it rarely dissolves in water.
- 22. a. Making dry ice.
- **2.** 1. c 2. d 3. e 4. b
- 3. 1. (1)
- 2. (1)
- 3. (x) Increase of carbon dioxide ...
- 4. (x) Carbon dioxide ...
- 5. (1)
- 6. (x) Tobacco ...
- 7. (x) Carbon dioxide ...
- 8. (x) ... presence of carbon dioxide gas.
- 9. (x) ... into milky. 10. (✓)
- 11. (x) ... that is insoluble in water.
- 12. (1)

3. oxygen

- 13. (🗸)
- 14. (x) Carbon dioxide is ... 15. (x) ... white ppt. ... 16. (√)
- 17. (x) ... upward displacement of air.

- 18. (x) _ with calcium carbonate _
- 19.(1)
- 20 (1)
- 21. (x) Air is lighter than __
- 22. (x) Carbon dioxide easily _
- 23. (1)
- 24. (x) _ it doesn't help in combustion.
- 25. (1)
- 26. (x) _ of carbon dioxide _
- 1. Carbon dioxide gas.
 - 2. Carbon dioxide gas,
 - 3. Carbon diexide gas.
 - 4. Carbon dioxide gas.
 - 5. Tobacco.
- 6. Limewater.
- 7. Carbon dioxide gas.
- 8. Calcium carbonate.
- 9. Divute hydrochloric acid.
- 10. Upward displacement of air.
- 11. Carbon dioxide gas.
- 12. Carbon dioxede gas
- Carbon dioxide gas.
- 14. Carbon dioxide cas.
- 15. Carbon (coal).
- 15. Carbon dioxide gas.
- 17. Carbon dioxide gas. 18. Yeast.
- 19. Fermentation process
- 20. Carbon dioxide cas.
- 21. Carbon dioxide gas.
- 22. Global warming.
- 5. 1.0.03% CO. 2 carbon oxygen
 - 3. carbon dioxide
 - 4. fuel carbon diggide
 - 5. respiration combustion
 - 6. Limewater
 - 7. organic wood respiration
 - carbon draxide oxygen oxygen carbon dioxide
 - 9. Carbon dioxide
- 10. carbon dioxide
- 11. carbon dioxide
- 12 milky (turbed).
- 13 carbon dioxide gas calcium carbonate
- diute hydrochioric acid calcium carbonate.
- 15. Carbon dioxide 16. upward air heavier

- 17, easily dissolves in water.
- It doesn't burn and doesn't help in burning – it is heavier than air
- magnesium oxide carbon
- 20. burn help in burning.
- 21. pressure cooling dry ice
- 22. Carbon dioxide
- 23. carbon dioxide gas porpus tasty.
- 24. carbon dioxide food oxygen gas.
- 25. Carbon dioxide oxygen
- suffocation of living organisms global warming.
- 6. 1. Due to :
 - The removal of forests.
 - Burning massive amounts of fuel in factories and means of transport.
 - Because plants take carbon dioxide gas to make photosynthesis process.
 - Because this increases the percentage of carbon dioxide gas.
 - Because clear limewater turns into milky when carbon dioxide gas passes through it.
 - Due to the formation of calcium carbonata (white ppt.) which is insoluble in water and causes the turbidity of imewater.
 - 6. Because it is heavier than air.
 - Because it easily dissolves in water.
 - Because it doesn't burn and doesn't help
 in burning.
 - 9 Because it produces magnesium oxide which is a white substance and carbon (coal) which is a black substance.
 - Because by adding yeast to dough, carbon dioxide is produced during fermentation process and expanded by heat making the bread porous and tasty.
 - Because during photosynthesis process, the plant produces food and oxygen which is necessary for respiration of all living organisms.
 - 12. Because carbon dioxide gas is necessary for plants to make photosynthesis process to produce food and oxygen gas which is necessary for respiration of all living organisms.

- 13. Because it is used in :
 - Making dry ice, soft drinks and bread.
 - Extinguishing fires.
 - Photosynthesis process.
- 14. Because it causes :
 - Suffocation of living organisms.
- Global warming.
- 7. 1. The percentage of carbon dioxide gas will increase in air.
 - A molecule of carbon dioxide will be formed.
 - Limewater turns into milky due to the presence of carbon dioxide gas in the exhaled air.
 - They will react together and carbon dioxide gas will evolve.
 - 5. Carbon dioxide gas is produced.
 - 6. The lighted candle will extinguish.
 - Magnesium ribbon keeps burning for a short time producing magnesium oxide which is a white substance and carbon (coal) which is a black substance.
 - Dry ice is formed which is used in refrigeration.
 - Carbon dioxide is produced during fermentation, so the bread becomes porous and fasty.
 - It will cause global warming and suffocation of living organisms.
 - 11. Green plants cannot make
 photosynthesis process, so the
 percentage of oxygen will decrease in the
 atmosphere and living organisms will die.
 - This causes osteoporosis and may cause death.

8.

	Oxygen gas	Carbon dioxide gas
	It doesn't burn, but it helps in burning.	It doesn't burn and doesn't help in
	2. It scarcely dissolves in water.	2. It easily dissolves in water.
	3: It is collected by downward	It is collected by upward displacement
1 18/20	displacement of water.	of air.

- 1. Green plants use it to make photosynthesis process to produce food and oxygen gas.
 - It is used in making bubbled and tasty bread, dry ice and soft drinks.
 - It is used in extinguishing fires.
 - It is used to detect the presence of carbon dioxide gas.
 - 3. It is used in refrigeration.
 - Yeast produces carbon dioxide during fermentation process which expands by heat making the bread porous and tasty.
- a. By adding dilute hydrochloric acid on calcium carbonate, where carbon dioxide gas is produced.
 - By burning (combustion) of wood, where carbon dioxide gas is produced.
- 11. 1. Substance (a): Calcium carbonate.
 - Liquid (3): Dilute hydrochloric acid.
 - (1) It is used in extinguishing fires.
 (2) It is used in making soft drinks.

Thinking Skills Questions

- c. consumes oxygen and produces carbon dioxide.
- 2. Yes.
 - Because green plants (trees) absorb carbon dioxide gas during photosynthesis process and give out oxygen gas.
- 3. 1. carbon dioxide
 - 2. It turns into milky (turbid).
 - 3. calcium carbonate.
- 4. 1. extinguish oxygen
 - 2. milky (turbid) carbon dioxide
 - 3. burning (combustion) carbon dioxide
- 1. c. respiration and photosynthesis processes.
 - 2. a. respiration process only.
 - 3. a. oxygen and nutrients
 - 4. a. oxygen is used.
- 6. Orange juice is useful for my body.
 Because orange soft drink contains a big
 - Because orange soft drink contains a b amount of carbon dioxide that causes bone disease.

Lesson 3

- 1. 1. b. two
- 2. b. 78%
- 3. c. Daniel Rutherford, 4. a. alr.
- 5. c. oxygen.
- 6. c. lightning 8. b. lifeless gas.
- 7. a. proteins.
- 9. d. not help in burning. 2. 1. (x) ... represents 78% ...
 - 2.(1)

- 3. (1)
- 4. (x) ... forms protein substances.
- 5. (x) Nitrogen oxides ...
- 6. (x) ... fix nitrogen of air ... 7. (✓)
- 8. (x) ... doesn't help in ...
- 9. (1) 10. (x) ... dissolves in water scarcely.
- 3. 1. two
 - 3. nitrogen oxides
 - 5. Nitrogen 7. nitrogen
- 9. lifeless
- 1. Nitrogen gas.
- 2. Nitrogen gas.

2.78%

4. nitrogen

6. protein

8. scarcely

- 3. Nitrogen gas.
- 4. Nitrogen oxides. 6. Nodular bacteria.
- 5. Legumes. 7. Nitrogen gas.
- 5. 1. a gaseous 2. two - N.,
 - 3. 78 tissues.
 - 4. Nitrogen 5. nitrogen oxides.

 - 6 clover peas protein
 - 7. bacteria roots of legumes.
 - 8. Daniel Rutherford 9. burning.
 - 10. doesn't help in burning.
- 11. scarcely
- 6. 1. Because nitrogen forms 78% of the volume of atmospheric air.
 - 2. Because legumes need nitrogen gas to form protein by the help of a specific type of bacteria (nodular bacteria) that live in their roots.
 - 3. Because it forms protein which is necessary for building up living tissues.
 - 4. Because it contributes in the composition of all living tissues as it forms protein substances.
 - 5. Because nitrogen gas doesn't help in burning.

- 7. 1. The protein substance that builds up the bodies of all living organisms is not
 - 2. Nitrogen oxides are formed, where they reach the soil during raining.
 - 3 Legumes as clover, peas and soybeans can't make protein.
- 6. Look at the main book on page (126).

Point of comparison	Oxygen gas	Nitrogen gas
Combustion ;	It doesn't burn, but it helps in burning.	It doesn't help in burning.

10. They take the atmospheric nitrogen and convert it into protein.

Thinking Skills Questions

- 1. 1. (2)
 - 4. azote 5.0
- 2. c. Gas (A) is nitrogen, gas (B) is carbon dioxide and gas (C) is oxygen.

2.0

Project on UNIT THREE Answer by Yourself

Unit Four

Lesson 1

- 1. 1. c. nervous
- 2. a. neuron.
- 3. c. dendrites.
- 4, c. synapse
- 5. c. myelin sheath.
- 6. c. dendrites.

3. 3

- 7. a. nerve cell axon.
- 8. c. brain and spinal cord.
- 9. a. spinal nerves.
- 10. c. spinal nerves.
- 11. b. skull
- 12. c. cerebrum
- 13. d. two cerebral hemispheres.
- 14. d. gray.
- 15. a, two cerebral hemispheres.
- 16 d. corebral hemispheres.
- 17. b. the body's balance.
- 18. c. Medulla oblongata

- 19. a. regulating the heartbeats.
- 20. a. medulla oblongata.
- 21, c. medulla oblongata.
- 22, b. vertebral column, 23, d. spinal cord.
- 24, a. Spinal cord
- 25. a. H
- 26. b. opposite 27. b. Peripheral nervous system
- 28. c. 12
- 29. a. 31
- 30. c. reflex action. 31. c. Inhalation and exhalation during sleeping.
- 32. a. spinal cord.
- 33, d. smoking cigarettes.
- 34. d. reflex action.
- 2. 1.e 2.d 3.a 4.c 5.g 6.f 7.b
- 3. 1. (x) ... nervous system ...
 - 2. (x) The nerve cell ...
 - 3. (x) ... and axon.
 - 4. (x) ... called dendrites.
 - 5. (x) ... nerve cells' axon terminals.
 - 6. (x) ... by a fatty layer. 7. (1)
 - 8. (x) The brain is ...
 - 9. (x) The skull is ...
- 10. (1)
- 11. (1) 12. (x) ... is a gray matter. 13. (1)
- 14. (x) ... called cerebral cortex.
- 15. (x) ... of the two cerebral hemispheres
- 16. (x) ... in the cerebrum.
- 17. (x) ... below the two cerebral hemispheres.
- 18. (1)
- 19. (x) ... is in front of cerabellum ...
- 20. (x) Medulla oblongata is ...
- 21. (x) Medulla oblongata controls ...
- 22. (1)
- 23. (x) ... is gray matter ...
- 25. (x) ... 31 pairs of spinal nerves and 12 pairs of crainial nerves.
- 26. (1) 27. (1)

24. (1)

- 4. 1. The nervous system.
 - 2. The nervous system. 3. The nervous system.
 - 4. Neuron (Nerve cell).
 - 5. Dendrites.
 - 8. The axon.
 - 7. Myelin sheath.

- 8. Synapse (Synaptic area).
- 9. The central nervous system.
- 10. The brain.
- 11. Skull.
- 12. Cerebrum.
- 13. Cerebral cortex (Gray matter).
- 14. Cerebrum.
- 15. Cerebrum (The two cerebral hemispheres).
- 17. Cerebellum.
- 16. Cerebellum.
- 18. Medulla oblongata.
- 19. Medulla oblongata.
- 21. The spinal cord. 20. The spinal cord.
- 22. Gray matter.
- 23. The peripheral nervous system.
- 24. Cranial nerves.
- 25. Spinal nerves.
- 26. Reflex action.
- 27. Reflex action.
- 28. The spinal cord.
 - 29 Addiction
- 1. Nervous system
 - 2. nerve neuron. 3. the cell body - the axon.
 - 4. a nucleus cytoplasm dendrites

20, cerebellum

25. spinal cord

- 5. synapse. 6. myelin 7. axon terminals - a synapse
- 8. central nervous system peripheral nervous system.
- 9, the brain the spinal cord.
- 10. the brain skull.
- 11, nerve cells. 12. cerebrum - cerebellum - medulla oblongata.
- 13, a gray a white
- 14. Cerebrum the two cerebral hemispheres.
- 15. the skull
- 16. voluntary running in races.
- 17. The two cerebral hemispheres 18. thinking - memory.
- 19. cerebellum
- 21. medulla oblongata.
- 22. medulla oblongata. 23. medulla oblongata - movement of the respiratory system parts during
- breathing. 24. backbone.
- 26. The spinal cord
- 27. a gray a white
- 28. letter "H" the white matter. 29, the peripheral nervous system.
- 30, cranial spinal 31. 12 pairs - 31 pairs.
- 32. The peripheral the central nervous system

16

- 33, reflex action
- 34. The spinal cord the medulla oblongata
- 35, reflex action.
- 36, reflex action. 37. nervous tension - affects heartbeats.
- 38, tranquilizers
- 6. 1. To connect the neuron's body with the neighbouring neurons forming synapse.
 - 2. To form a synapse with the dendrites of other neurons or to connect with the muscles.
 - 3 Because it directs and coordinates all the processes, ideas, behaviours and emotions.
 - 4. Because it controls the voluntary movements as running in races.
 - 5. Because it :
 - Controls the voluntary movements of the body as running in races.
 - Receives nerve impulses from sense organs and sends the suitable responses to these impulses.
 - Contains the centers of thinking and memory.
 - 6. Because it maintains the balance of the body during its movement.
 - 7. Because it regulates the movementsand functions of the digestive system's organs.
- 8. Because it is responsible for regulating the involuntary processes as :
- Regulating the heartbeats.
- Regulating the movement of the respiratory system parts during breathing.
- Because medulla oblongata controls all the involuntary processes (as heartbeats. movement of the respiratory system parts during breathing, movements and functions of the digestive system).
- 10. Because the skull protects the brain and the backbone protects the spinal cord.
- 11. Due to the reflex action made by the spinal cord.
- 12. To maintain the nervous system healthy.
- 13. To maintain the nervous system healthy.
- 14. To maintain the nervous system healthy as they affect the sleeping periods, the heartbeats and lead to nervous tension.
- 15. To maintain the nervous system healthy.

- 16. To maintain the nervous system healthy.
- 17. Recause it causes retardation of memory and learning, nervous tension. sluggishness, loss time sensation and sleepless.
- 18. Because:
 - It carries the nerve messages from one of the body areas to another.
 - It regulates and coordinates all the vital processes within the body.
 - It receives the external stimuli that surround the human being through the sensory organs, then identifies and interprets them.
- 7. 1. The synapses are not formed.
 - 2. The body will lose its balance.
 - 3. All the involuntary processes of the body will be disturbed causing death.
 - 4. The withdrawal of your hand will occur quickly.
 - 5. The blinking of the eyelashes will occur.
 - The nervous system will be exhausted.
 - 7. The nervous system will be exhausted, due to exhausting of sense organs.
 - 8. The nervous system will be exhausted.
 - 9. The nervous system will be exhausted as they lead to nervous tension and affect the heartbeats and the sleeping periods.
- 10. The nervous system will be exhausted.
- 11. It will cause sleepless, nervous tension, sluggishness, retardation of memory and learning.
- 8. 1. It is the building unit of the nervous
 - 2. They are connected to the neighbouring neurons to form synapse.
 - 3. It directs and coordinates all the processes, ideas, behaviours and emotions.
 - 4. It protects the brain.
 - 5. It controls the voluntary movements of the body.
 - It receives the nerve impulses from the sense organs and sends the suitable responses to these impulses.
 - It contains the centers of thinking and memory.
 - 6. It maintains the balance of the body during the movement.

- 7. It is responsible for regulating the involuntary processes of the body as :
 - Regulating the heartbeats.
 - Regulating the movement of the respiratory system parts during breathing.
 - Regulating the movements and functions of the digestive system.
- 8. It delivers the nerve messages from the body organs to the brain and vice
 - It is responsible for the reflex actions.
- 9. It delivers the sensory information and the kinetic responses between the central nervous system and all parts of the body.
- 10. It carries the nerve messages from one of the body areas to another.
 - It regulates and coordinates all the vital processes within the body.
 - It receives the external stimuli that surround the human being through the sensory organs, then identifies and interprets them.
- 9. 1. It is a communication and controlling system that regulates all the vital operations of the human body.
 - 2. It is the building unit of the nervous system.
 - 3. It is a nerve block containing millions of nerve cells and it is the main control center in the human body.
 - 4. It is the nerves which emerge from the central nervous system (the brain and the spinal cord).
 - 5. It is the automatic response of the body to different stimuli.
- 10.1. Extend from the cell body of the neuron.
 - 2. At the end of the axon of the neuron.
 - 3. Inside the skull. 4. A part of the brain.
 - 5. At the outer surface of the two cerebral hemispheres.
 - 6. At the back area of the brain below the two cerebral hemispheres.
 - 7. In the brain in front of the cerebellum.
 - 8. In a channel within a series of vertebrae in the backbone.
 - 9. In the inner part of the spinal cord.

11. 1

Points of comparison	The brain	The spinal cord
Definition:	It is a nerve block containing millions of nerve cells and it is the main control center in the human body.	It is a cylindrical cord from which the spinal nerves extend.
Location :	It is located in a bony box called skull.	It extends in a channel within a series of vertebrae in the backbone.
Function :	It directs and coordinates all the processes, ideas, behaviours and emotions.	It delivers the nerve messages from the body organs to the brain and vice versa. It is responsible for the reflex actions.

Spinal cord	Two cerebral hemispheres
white matter, while the	The outer surface is a gray matter, while the inner surface is a white matter.

3.

Points of comparison	Cranial nerves	Spinal nerves
Definition :		They are nerves that emerge from the spinal cord.
Number :	12 pairs.	31 pairs.

- 4. Look at the main book on page (149).
- 12. 1. the structure of the spinal cord.
 - 2. (a) The white matter. (b) The gray matter.
- 13, 1. the nerve cell (neuron).
 - 2. Part (A) represents the cell body.
 - Part (B) represents the axon.
 - 3. ① Nucleus.
- (2) Dendrites. Myelin sheath.
- ③ Cytoplasm. S Axon terminals.

- 14. 1. ① Cerebrum.
 - (2) Carebellum.
 - Medulla oblongata.
 - 2. It maintains the balance of the body during the movement.
- 15 Look at the main book on pages (147&148).

Thinking Skills Questions

- b. cerebrum cerebellum medulla oblongata.
- 2 0-0-0-0-0
- 3. c. Part (1) is medulla obiongata, part (2) is cerebrum and part (3) is spinal cord.

Lesson 2

- 1. 1. b. Movement
- 2. d. urinary
- 3. c. spinal cord.
- 4. c. the limbs bones.
- 5. d. Vertebrae.
- 6. b. brain.
- 7. d. 33
- 8. a. spinal cord.
- 9. b. 12
- 10. d. heart and lungs. 11. c. breathing
- 12. b. stemum
- 13, a. shoulder
- 14, a. upper limbs.
- 15, c. upper limbs
- 16. b. pelvic
- 17, a. two bones.
- 18. a. immovable.
- 19. d. slightly movable.
- 20. b. thigh.
- 21. d. Knee.
- 22. c. Elbow.
- 2. 1.0 2. d 3. b 4. n
 - 8. f 5. 0
- 2. (1) 3. 1.(1)
- 3. (x) ... of 33 vertebrae.
 - 4. (x) ... of 12 pairs of ribs.
- 5. (1) 7. (1)
- 6. (x) There are cartilages ...
- 8. (x) ... the spinal cord.
- 9. (x) ... the bones of upper limbs and bones of lower limbs.
- 10. (x) The skeleton of upper limb ...
- 11. (x) ... has immovable joints.
- 12. (x) ... is a freely movable joint.
- 13. (x) ... is a slightly movable joint.
- 14. (x) Freely movable joints ..
- 15. (x) ... is a slightly movable joint.

- 1. The locomotory system.
 - 2. The locomotory system.
 - 3. The skeletal system.
 - 4. Axial skeleton.
- 5. Axial skeleton.
- 6. Skull.
- 7. Backbone.
- 8. Backbone.
- 9. Backbone.
- 10. Backbone. 12. Ribcage.
- 11. Cartilages. 13. Ribcage.
- 14. Appendicular skeleton.
- 15. Joint.
- 16. Joint.
- 17. Immovable joint.
- 18. Slightly movable joint.
- 19. Freely movable joint.
- 5. 1. movement.
 - 2. skeletal muscular nervous
 - 3. the skeletal system the muscular system.
 - axial skeleton appendicular skeleton.
 - 5. the skull the backbone the ribcage.
 - 6. The skull cavitles
 - 7. protect the brain.
- 8. 33 vertebrae.
- 9. Cartilages
- 10. friction motion.
- 11. 12 ribs.
- 12. sternum
- 13. the lungs the heart, 14. Ribcage
- 15. upper limbs lower limbs.
- 16. humerus bone forearm bones hand bones.
- 17. femur bone shaft bones foot bones.
- 18. joint
- 19. immovable joints slightly movable joints - freely movable joints.
- 20, allow the movement between bones.
- 21. slightly movable freely movable
- 22. the knee joint the shoulder joint.
- 6. 1. Because it helps in moving from a place to another seeking benefit or away from harm.
 - 2. To protect the brain.
 - 3. Because it allows the body to bend in different directions and it protects the spinal cord.
 - 4. To prevent the friction between vertebrae during motion.
 - To protect the heart and the lungs.
 - Because they don't allow any movement.

- 7. Because it allows the movement in one direction only.
- 8. Because it allows the movement in all directions
- 7. 1. The human body can't move.
 - 2. The human body can't bend in different directions.
 - 3. Friction takes place between the vertebrae causing harms to the backbone.
 - 4. The human body can't move.
 - 5. The lower limbs will move in one direction only.
 - 6. The two upper limbs will move in one direction only.
- 8. 1. It protects the brain.
 - 2. a. It allows the body to bend in different directions.
 - b. It protects the spinal cord.
 - 3. They prevent the friction between vertebrae during motion.
 - 4. a. It protects the lungs and the heart.
 - b. It helps in the inhalation and exhalation
 - 5. They allow eating, drinking, writing and holding things.
 - 6. They allow walking, running, standing and carrying the rest of the body.
 - 7. They allow the movements between bones.
 - 8. They allow the movement of bones in one direction only.
 - 9. They allow the movement of bones in all directions.
- 9. 1. It is the location at which bones meet each other.
 - 2. They are the joints that don't allow any movement between bones.
- 10. 1. Immovable joints.
 - 2. Slightly movable joint.
 - 3. Slightly movable joint.
 - 4. Freely movable joint.
 - 5. Freely movable joint.
 - 6. Freely movable joint.

- 11. 1. axial upper
 - 2. ① Humerus bone. @ Forearm bones.
 - 3 Hand bones.
- Ribcage.
- Backbone 6 Skull.
- 3. Functions of structure number (4):
 - a. It protects the lungs and the heart.
 - b. It helps in inhalation and exhalation processes.
- Functions of structure number (5):
- a. It allows the bending of the body in different directions.
- b. It protects the spinal cord.
- Function of 6 :
- It protects the brain.
- (b) Elbow joint —— Slightly movable joint.
- 12. 1. lower
 - 2. (1) Femur bone. 2 Shaft bones.
 - (3) Foot bones.
 - 3. It allows walking, running, standing and carrying the rest of the body.
 - 4. (a) Thigh (hip) joint ---- Freely movable joint.
 - (6) Knee joint Slightly movable joint.
- 13. 1. skull.
- 2. immovable joints.
- 3. protecting the brain.
- 14. 1.

The axial skeleton	The appendicular skeleton
the skull, the backbone	It is composed of bones of upper limbs and bones of lower limbs.

2.	
The upper limbs	The lower limbs
- They are connected to the shoulder bones.	- They are connected to the pelvic bones.
They are humerus bone, forearm bones and hand bones.	They are femur bone, shaft bones and foot bones.
 They allow eating drinking, writing and holding things. 	 They allow walking, running, standing and carrying the rest of the body.

21

3.

Points of comparison	Freely movable joints	Slightly movable joints
Definition :	They allow movement in all directions.	They allow movement in one direction only.
Example :	Shoulder joint.	Knee joint.

Thinking Skills Questions

- 1. 1. The ribcage.
 3. The skull.
- The backbone.
 The ribcage.

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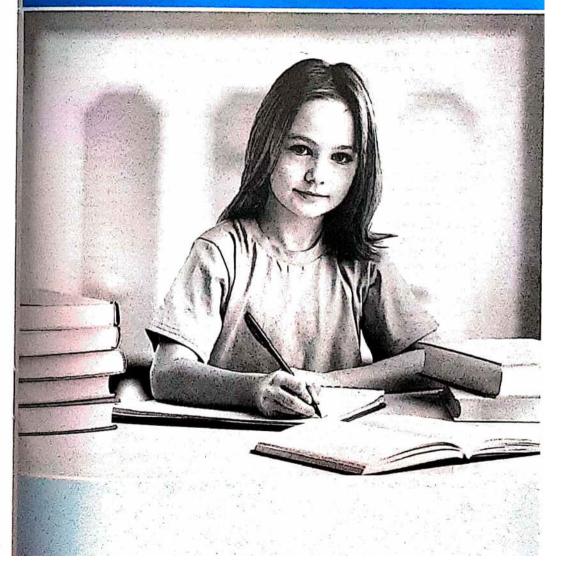
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 a. Part ① is axial skeleton, part ② is slightly movable joints and part ③ is appendicular skeleton.

Project on UNIT FOUR Answer by Yourself

PART

Guide Answers of Worksheets



Worksheet

- 1. Balance scale spring scale
 - 2. weight mass 3. gravity weight
 - 4. gram kilogram Newton.
 - 5. one sixths $(\frac{1}{8})$
- 2. [A] 1. Because the gravity of a planet depends on its mass, so the weight of any object will change from a planet to
 - 2. To prevent any vibration of the balance scale.
 - 3. Because the gravitational force of the Earth to the person in the balloon decreases as we go away from the center of the Earth.

(B) 1. (√) 2. (x) 3. (x)

4. (X)

3. IAI

30 kg.	1 kg.	3000 gm.
300 Newton	10 Newton	30 Newton

- [B] 1. Sensitive two-arms scale.
 - 2. Kilogram.
- 4. [A] 1. It is the gravitational force by which a body is attracted to the Earth.
 - 2. It is the amount of matter in an object.
 - (B) 1. a. decreases. 3. b. 10
- 2. d. spring scale.
- 5. [A] 1. d 2. b
 - 4. C (B) 1. Its mass on the moon = Its mass on the Earth = 60 kg.
 - 2. The object's weight on the Earth = Its mass (kg.) x 10 = 60 × 10 = 600 Newton.
 - 3. The object's weight on the moon = Its weight on the Earth x 1 $= 600 \times \frac{1}{6} = 100$ Newton.

General Exercise of the school Book on Unit

- 1. 1. d. spring scale. 2. b. 2 kg.
- 1. baiance scale spring scale.
 - 2. the place of the body.

3. the object's mass - the planet (place) where the object exists - the distance between the object and the center of the planet.

3.

Points of comparison	Mess	Weight
The amount of matter in an object.		The gravitational force by which a body is attracted to the Earth.
Unit of measurement:	Kilogram or gram.	Newton.
Device of measurement: - Balance scale, - Sensitive two-arms scale One-arm digital scale, - One-arm scale with a pointer.		Spring scale.
Direction :	It has no direction.	Its effect is always directed towards the center of the Earth (downward).
Effect of different places :	Constant. (It does not change with changing the place).	Variable. (It changes with changing the place).

- 4. 1. The object's mass on the moon = Its mass on the Earth = 30 kg.
 - 2. The object's weight on the Earth
 - = Its mass (kg.) x 10
 - = 30 x 10 = 300 Newton.
 - 3. The object's weight on the moon
 - = its weight on the Earth x 1
 - = 300 $\times \frac{1}{8}$ = 50 Newton.

Model Exam on Unit (1)

- 1. [A] 1. one paper dip small
 - 2. a constant the place of the matter.
 - 3. Newton 100
 - 4. Its mass (kg.) 10

- [B] 1. Because the Earth has greater mass and gravitational force than the moon.
 - 2. Because the mass of the body is a fixed value and it doesn't change by changing the place.
- 2. (A) 1. c. 100
- 2. b. 20 Newton.
- 3. a. smaller than 4. c. 5 kg.
- (B) 1. It is meant that the gravitational force which attracts the body to the Earth = 700 Newton.
 - 2. It is meant that the amount of matter in the small watermelon equals 2 kilogram.
- 3. [A] 1. (★) 2. (✔) 3. (★) 4. (✔)
 - [B] 1. All objects on the Earth's surface don't have weight.
 - 2. The weight of the object decreases as the gravitational force of the Earth for this object decreases.
- 4. [A] 1. Gram. 2. Mass. 3. Newton.
 - 4. Weight (gravitational force).

[8]

Points of comparison	Masa	Weight
Measuring devices :	- Balance scale Sensitive two-arms scale One-arm digital scale One-arm scale with a pointer.	Spring scale.
The effect of changing the place :	Constant. (It does not change with changing the place).	Variable. (It changes with changing the place).



- 1. [A] 1. b. Gram 3. a. 6
- 2. a. decreases 4. b. Y > X > Z
- [B] 1. The object's weight on the Earth
 - = Its mass (kg.) × 10
 - 480 = Its mass (kg.) × 10
 - Its mass on the Earth = $\frac{480}{10}$ = 48 kg.

- 2. The object's weight on the moon = Its weight on the Earth $\times \frac{1}{6}$ $= 480 \times \frac{1}{9} = 80$ Newton.
- 2. [A] 1. mass 2. equal to
- 4. increases.
- (B) 1. Because the mass of the Earth is more than that of the moon.
 - 2. Because the gravitational force of the Earth attracts the hanged body downward, that causes the expand of the wire of spring scale.
- 3. [A] 1. c
- 2. a
- 3. b
- 4. d
- [B] 1. The object's mass.
 - 2. The planet (place) where the object exists.
- [A] 1. One-arm digital scale.
 - 2. Balance scale.
 - 3. Spring scale.
 - 4. Sensitive two-arms scale.
 - [B] 1. The weight of my body on the moon will decrease to one sixths $(\frac{1}{6})$ of the weight of my body on the Earth.
 - 2. Its weight increases.

Worksheet

- 1. 1. hotness coldness 2. bad good
 - 3. metals good
 - 4. insulating wood.
- 5. glass industry paper industry.
- 2. [A] 1. Because copper allows heat to flow through, while wood doesn't allow heat to flow through.
 - 2. Because aluminium let heat flow through as it is a good conductor of heat.
 - 3. To keep our bodies warm as they are heat insulators.
 - (B) 1. (★) ... are different ...
 - 2. (x) ... the hot object to cold object.
- 1. b. Thermometer.
 - 2. a. body warm.
 - 3. c. Copper
 - 4, c. a hot object to a cold object.
 - 5. b. allows heat to flow through.

- 4. [A] 1. It is a form of energy that transfers from the higher temperature object to the lower temperature object.
 - 2. It is the degree of hotness or coldness of a body.
 - IBI 1. Heat conductors.
 - 2. Copper. Heat insulators.
- 5. IAl 1. I feel cold due to the transfer of heat from my hands to the piece of ice.
 - 2. Heat doesn't transfer from one body to the other as they have the same temperature.

Heat conductors	Heat Insulators
Iron Copper Aluminium	Plastic - Air - Wood -
- Stainless steel.	Water.

Worksheet 3

- 1. volume temperature.
 - 2. Celsius thermometer medical thermometer
 - 3. zero 100
- $4.10 \frac{1}{10}$
- 5. heating cooling.
- 2. [A] 1. Because the scale of the medical thermometer ranges from 35°C to 42°C and the boiling point of water is 100°C, so the thermometer will be broken.
 - 2. Because it remains in a liquid state between (- 39°C) and (357°C).
 - 3. Because mercury inside the thermometer is a toxic substance.
 - [B] 1. (√) 2.(V) 3.(V) 4.(X)
- 3. [A] 1. The medical thermometer will be damaged, because the boiling point of water is 100°C.
 - 2. The medical thermometer will be broken and mercury which is a loxic substance will harm my body.
 - [B] 1. b. medical thermometer
 - 2. a. Medical thermometer
 - 3. b. Mercury
- 4. 1. Thermometer.
 - 3. Ethyl alcohol.
 - 5. 100°C.
- 2. Constriction 4. Celsius thermometer.

- 5. 1. (1) Constriction. (2) Mercury bulb. (3) Capillary tube.
 - Transparent thick glass tube.
 - 2. Celsius thermometer the temperature of liquids.
 - 3. medical thermometer the temperature of human body.
 - 4. It prevents the mercury from returning back to the mercury bulb quickly in order to read the measurement easily.

General Exercise of the School Book on Unit



2. Kettles.

- 1. thermometers.
 - 2. Celsius thermometer medical thermometer
 - 3. Iron copper aluminium
 - 4. Wood plastic air
- 2. 1. Thermometer.
 - 2. Heat conductors.
 - 3. Heat insulators.
- 3. Good conductors of heat:
 - They are used in making:
 - 1. Cooking pots (utensils).
 - Bad conductors of heat :
 - They are used in making:
 - 1. The handles of :
 - Cooking pots. - Electric Iron.
 - Kettles.
 - 2. Heavy blankets and woolen clothes.

Points of comparison	Medical thermometer	Celsius Ihermometer
Usage ;	It is used to measure the temperature of the human body.	It is used to measure the temperature of tiquids.
Structure :	Transparent thick glass tube. Capillary tube. Mercury bulb that is filled with mercury.	
Used liquid :	Mercury.	Mercury.
Scale :	From 35°C to 42°C.	From 0°C to

Points of comparison	Good conductors of heat	Bad conductors of heat
Definition :	They are materials that let heat flow through.	They are materials that don't let heat flow through.
Usage :	They are used in making: - Cooking pots (utensils) Kettles.	They are used in making: 1. The handles of: - Cooking pots Electric iron Kettles. 2. Heavy blankets and woolen clothes.
Examples :	Copper, aluminium, iron and stainless steel.	Glass, wood, paper, plastic, wool, air, and rubber.

- 5. 1. (x) Celsius thermometer is used ...
 - 2. (x) The scale of the medical thermometer ...
 - 3. (x) Plastic is ...
 - 4. (x) Iron is ...
- 6. 1. Because mercury :
 - Is a liquid metal.
 - is a good conductor of heat.
 - is a regular expanding material.
 - 2. Because they don't let heat flow through as they are bad conductors of heat.
 - 3. Because they let heat flow through as they are good conductors of heat.
 - 4. To prevent mercury from returning back quickly to the bulb in order to read the measurement easily.



- [A] 1, bad good 2, plastic wood.
 - 3. volume temperature
 - 4. liquid good
 - [B] 1. We can't hold the handles of cooking pots as aluminium is a good conductor of heat.
 - 2. The medical thermometer will be damaged, because the boiling point of water is 100°C.

- 2. [A] 1. c. 37°C.
 - 2. b. zero°C to 100°C.
 - 3. a. (A) is copper, (B) is iron and (C) is aluminium.
 - 4. a. a glass of hot tea to a glass of ice.
 - [B] 1. Because all metals let heat to flow through.
 - 2. To prevent mercury from returning back quickly to the bulb in order to read the measurement easily.
- 3. (A) 1. Mercury.
- 2. Celsius thermometer
- 3. Wool.
- 4. Digital thermometer.
- (B) 1. They are the materials that let heat flow through.
 - 2. It is a form of energy that transfers from the higher temperature object to the lower temperature object.
- 4. [A] 1. (X) 2. (X)
 - [B] Because mercury :
 - 1. is a liquid metal.
 - 2. is a good conductor of heat.
 - 3. is a regular expanding material.
 - 4. gives a wide range to temperature measurement.

Model Exam on Unit (2)

- 1. (A) 1. a. Copper
 - 2. c. stainless steel.
 - 3. b. Ethyl alcohol 4. a. more than
 - (B) 1. They are used in making the handles of cooking pots.
 - 2. It is used to sterilize the medical thermometer.
- 2. [A] 1. (✓) 2. (✓) 3. (x) 4. (x)
 - (B) 1. To force the mercury back to the mercury bulb.
 - 2. Because the temperature of my hand is higher than that of ice, so heat transfers from my hand to the piece of ice and I feel cold.
- 3. [A] 1, higher lower
- 2. zero 100
- 3. copper aluminium. 4. (-39) (357)

- [B] 1. They are the materials that do not let heat flow through.
 - 2. It is the degree of hotness or coldness of a body.
- 4. [A] 1. d
- 3. a 4. b
- 2. c [B] 1. Train accidents will occur.
 - 2. The mercury will return back quickly to the mercury bulb before determining the temperature reading.

Worksheet

- 1. 1. The atmosphere.
 - 2. Manganese dioxide.
 - 3. Downward displacement of water.
 - 4. Photosynthesis process. 5. Catalyst.
- 2. 1. Carbon diaxide nitrogen
 - 2. Oxygen combustion
 - 3. Oxygen hydrogen peroxide
 - 4. carbon dioxide nutrients oxygen gas.
 - 5. 21% (1)
- 3. 1. Because the air Inside the cylinder loses one of its components which is oxygen that is consumed by the candle during burning.
 - 2. Oxygen gas helps in burning.
- [A] 1. Because oxygen scarcely (rarely). dissolves in water.
 - 2. Because they help in condensation. of water vapour in the air that causes formation of rains or snow
 - 3. Because it remains without any change in its quantity and structure during the chemical reaction.
 - [B] 1. oxygen gas
 - 2. (1) Hydrogen peroxide.
 - (2) Manganese dioxide.
 - (I) Oxygen gas.
- [] [A] 1. b. it consists of oxygen and nitrogen
 - 26 1
 - 3. c. hydrogen peraxide.
 - (B) We cannot control burning processes as axygen helps in burning.

Worksheet 5

- 1. 1. (x) Oxygen is heavier than air, so it replaces air.
 - 2.11
 - 3. (x) ... , but it helps in burning.
 - 4. (X) ... increases ...
- 2. 1. burning oxidation
 - 2. cutting welding
 - 3. scarcely downward displacement of water.
 - 4. magnesium oxide
 - 5. three oxygen two oxygen
 - 6. Iron rusting
- 3. [A] 1. Oxygen is a colourless, tasteless and odorless gas.
 - 2. Oxygen scarcely dissolves in water.
 - 3. Oxygen is heavier than air, so it replaces air.
 - [B] 1. Iron will combine with oxygen gas in the presence of moisture, so the iron cubes will rust.
 - 2. The burning fragment is still burning.
- 4. [A] 1. Oxidation.
- 2. Ozone layer.

5. (1)

- 3. Water.
- [B] 1. Oxygen cylinders is used during diving and climbing mountains.
 - Oxygen combines with acetylene gas to produce oxy-acetylene flame which is used in welding and cutting metals.
- 5. [A] 1. c. to avoid harmful radiation.
 - 2, d. acetylene with oxygen.
 - 3. d. one oxygen atom and two hydrogen atoms.
 - [B] 1. Because it causes corrosion and damage of ironware as the bridges'
 - Because the percentage of oxygen gas decreases when we rise above the Earth's surface.

Worksheet /

- 1. 1. d. photosynthesis process.
 - 2. d. animals, plants and humans.
 - 3. b. two oxygen atoms.
 - 4. b. adding dilute hydrochloric acid to calcium carbonate.
 - 5. a. calcium carbonate
- 2. (A) 1. Due to :
 - a. Removal of forests.
 - b. Burning massive amounts of fuel in factories and means of transport.
 - 2. Because it easily dissolves in water.
 - 3. Because clear limewater turns into milky when carbon dioxide gas passes through it.
 - (B) 1. The limewater becomes turbid.
 - 2. carbon dioxide gas is produced during respiration of plants.
- 3. 1. dilute hydrochloric acid calcium carbonate
 - 2. upward heavier
 - 3. Removal of forests burning massive amounts of fuel
 - 4. one carbon atom oxygen atoms.
 - 5. photosynthesis respiration
- 1. carbon dioxide gas.
 - 2. carbon dioxide gas
 - 3. (a) Ditute hydrochloric acid.
 - Calcium carbonate.
 - © Carbon dioxide gas.
- 5, 1.(/)
 - 2. (x) ... for green plants to build ...
 - 3. (x) Carbon dioxide ...
 - 4. (1)
 - 5. (x) Increasing of carbon dioxide ...

Worksheet 7

[A] 1. To produce carbon dioxide gas during fermentation that expanded by heat making bread porous and tasty.

- 2. Because it is used in :
- Making soft drinks. Making bread.
- Extinguishing fires.
- 3. Because it doesn't burn and doesn't help in burning.
- (B) magnesium oxide carbon
- [A] 1. d. it scarcely soluble in water.
 - 2. c. It is used in making soft drinks.
 - 3. a. carbon
 - [B] 1. Suffocation of living organisms.
 - 2. Global warming.
- 3. 1. carbon dioxide fermentation
 - 2. liquid dry ice
 - suffocation of living organisms global warming
 - 4. photosynthesis bread.
 - 5. carbon dioxide
- [A] 1. Carbon dioxide gas evolves.
 - 2. The magnesium ribbon keeps burning for a short time, then extinguishes forming a white powder (magnesium oxide) and a black substance (carbon).
 - 3. Green plants cannot make photosynthesis process well, so the percentage of oxygen will decrease in the atmosphere and living organisms will dia.
 - (B) 1. It is heavier than air.
 - 2. It doesn't burn and doesn't help in burning.
- 5. 1. (V) 2. (x) ... is carbon (coal).
 - 3. (x) ... percentage of carbon dioxide ... 4. (x) ... doesn't burn and doesn't help in
 - 5. (1)

Worksheet |

- 1. 1. b. three oxygen
 - 2. d. calcium hydroxide.

burning.

- 3. c. Making soft drinks.
- 4, b. sodium bicarbonate
- 5. c. heavier

- 2. (A) 1. Because oxygen gas scarcely dissolves in water, white carbon dioxide easily dissolves in water.
 - 2. Because this means that human swallows a big amount of carbon dloxide that causes bone diseases (osleoporosis) and may cause death.
 - 3. Because oxygen gas helps in burning.
 - (B) 1. Oxygen. 2. Carbon dloxide.
- 3. 1. 21 0.03
 - 2. manganese dioxide calcium carbonate.
 - 3. oxygen oxygen
 - 4. oxy-acatylene welding and cutting of metals.
 - 5. carbon dloxida black
- 4. [A] 1. They will rust causing damage to the ironware.
 - 2. Carbon dioxide gas is produced.
 - 3. Carbon dioxide gas is produced during fermentation that makes the bread porous and tasty.

[B] 1. (X) 2. (X) 3. (X)

5. [A]

Point of comparison	Oxidation	Combustion
Definition:	It is a slow combination between axygen and an element in the presence of moisture (water).	It is a rapid combination between oxygen and an element producing heat and light.

- [B] 1. It is compressed in Iron cylinders to be used in diving.
 - 2. It is used in making soft drinks.

Worksheet | 0

- 1. 1. two N,
 - 2. Nitrogen Daniel Rutherford
 - 3. nodular bacteria protein
 - 4. 78% 21%
 - 5. Nitrogen carbon dioxide

- 2. [A] 1. (X) ... two nitrogen atoms.
 - 2. (1)
 - 3. (x) ... forming nitrogen oxides.
 - [B] 1. It scarcely dissolves in water.
 - 2. It is a colourless, tasteless and odorless gas.
- 3. [A] 1. nitrogen
 - 2. nitrogen oxides
 - 3. Nitrogen
 - [B] 1. Because it doesn't help in burning.
 - 2. Because their roots contain nodular bacteria that help legumes to produce protein from the atmospheric nitrogen.
- 4. [A] They take the atmospheric nitrogen and convert it into protein.
 - [B] Legumes convert nitrogen into protein through a specific type of bacteria live in their roots.
 - It forms protein substance that builds up the body of all living organisms.

5.

Points of comparison	Nitrogen gas	Carbon dioxide gas	Oxygen
1. Percentage in air :	78% of air volume.	0.03% of air volume.	21% of air volume.
2. Its symbol :	N ₂	CO2	02

General Exercise of the School Book on Unit

- 1. 1. (x) ... fix nitrogen ...
 - 2. (x) Nitrogen gas ...
- 2. Because clear limewater turbids when carbon dioxide gas passes through it.
- 3. 1. Hydrogen peroxide is decomposed into water and oxygen gas in the presence of manganese dioxide.
 - 2. By burning (combustion) of wood, carbon dioxide gas is produced.
- 4. 1. Substance (3): Calcium carbonate.
 - Liquid (b): Dilute hydrochloric acid.
 - 2. 1. It is used in making bread.
 - 2. It is used in making soft drinks.

Model Exam on Unit (3)



- 1. (A) 1. photosynthesis 21
 - 2. clover peas
 - 3 water oxygen gas
 - 4. respiration combustion (burning)
 - [B] 1. Because the consumed oxygen gas during respiration and combustion processes is compensated by the green plants during photosynthesis.
 - 2. Because legumes need nitrogen gas to form protein by the help of specific type of bacteria (nodular bacteria) that live in their roots.
- 2. [A] 1. (✔) 2. (×)
- 3. (1) 4. (X)
 - [B] 1. Oxy-acetylene flame is formed.
 - 2. Limewater turns into milky.
- 3. [A] 1. Nitrogen gas.
 - 2. Ozone gas.
 - 3. Upward displacement of air.
 - 4. Ozone layer.
 - [B] 1. ① Hydrogen peroxide.
 - ② Manganese dioxide.
 - 2. Because oxygen scarcely dissolves in water.
- 4. [A] 1. a. it is easily soluble in water.
 - 2. d. carbon dioxide 3. b. burning.
 - 4. b. Making dry Ice.
 - [B] 1. Water
- 2. Nitrogen
- 3. Ozone
- 4. Carbon dloxide
- Model Exam on Unit (3)

- 1. [A] 1. oxygen carbon dioxide
 - 2. oxygen nitrogen oxides.
 - 3. oxygen nitrogen
 - 4. carbon dioxide nitrogen
- [B] When placing the lighted magnesium ribbon in the cylinder that contains (CO2). it forms a white substance (magnesium oxide) and a black substance (carbon or coal), while in the oxygen cylinder a white substance only is formed.

- 2. [A] 1. Oxygen and nitrogen gases ...
 - 2.... is heavier than the air.
 - 3. Nitrogen scarcely dissolves ...
 - 4. ... three oxygen atoms.
 - [B] 1. Because oxygen combines with iron forming iron oxide that its mass is higher than that of iron.
 - 2. Because green plants use carbon dioxide gas in photosynthesis process to produce food and oxygen which is important for respiration of all living organisms.
- 3. (A) 1. Water molecule.
 - 2. Oxy-acetylene flame.
 - 3. Global warming phenomenon.
 - 4. Nitrogen gas.
 - [B] 1. Legumes as clover, peas and soybeans can't make proteins.
 - 2. Calcium carbonate is formed which is insoluble in water, so limewater becomes turbid.
- 4. [A] 1. d. Carbon dioxide.
 - 2. c. manganese dioxide.
 - 3. c. 21%
 - 4. c. proteins.
 - (B) 1. It is used in cutting and welding metals.
 - 2. It is used in refrigeration.

Worksheet

- 1. central nervous system peripheral nervous system.
 - 2. fatty myelin
 - 3. gray the cerebral cortex.
 - 4. cerebrum cerebellum medulla oblongala.
 - 5. the brain
- 2. [A] 1. Because the skull protects the brain.
 - 2. Because medulla oblongata controls all the involuntary processes (as heartbeats, movement of the respiratory system parts during breathing, movements and functions of the digestive system).

[B] 1. (x) 2. (x) 3. (√)

- 3. [A] 1. They contain the centers of thinking and memory.
 - 2. It keeps the balance of the body during movement.
 - 3. It regulates the involuntary processes in the body as heartbeats.
 - [B] 1. Neuron. 2. The brain. 3. Axon.
- 4. [A] 1. It lies at the back area of the brain below the two cerebral hemispheres.
 - 2. It lies at the outer surface of the two cerebral hemispheres.
 - 3. It lies in front of the cerebellum.
 - 4. It lies inside the skull.
 - [B] 1. c. Medulla oblongata
 - 2. d. nervous
- 5. 1. ① Dendrites. ② Nucleus.
 - ① Cytoplasm. Plasma membrane.
 - (5) Myelin sheath. (6) Axon terminals.
 - 2. nerve nervous
 - 3. They are connected to the neighbouring neurons to form synapse.

Worksheet

- 1. 1. a. helping in the inhalation and exhalation during breathing.
 - 2. a. H
 - 3. d. Spinal cord
 - 4. a. two cerebral hemispheres. 5. d. 43
- 2. [A] 1. The nervous system will be exhausted and cause nervous tension and affect the heartbeats and the sleeping periods.
 - 2. The withdrawal of your hand will occur quickly.
 - (B) 1. 12 31
 - 2. Loss time sensation sluggishness 3. gray - white
- 3. [A] 1. It is responsible for the reflex actions inside the body.

- 2. It delivers the sensory information and the kinetic responses between the central nervous system and all parts of the body.
- [B] 1. (X) 2. (1)
- 4. [A] 1. To protect the spinal cord.
 - 2. Due to the reflex action made by the spinal cord.
 - [B] 1. Central nervous system
 - 2. Brain
- 3. Cranial nerves

3. (x)

- 4. Spinal nerves 5. Cerebrum
- 6. Medulla oblongata
- 5. [A] 1. Reflex action. 2. Spinal cord.
- 3. Peripheral nervous system. [B] 1. the spinal cord.
 - 2. (a) White matter. (b) Gray matter.
 - [C] 1. Keeping away from sitting for a long period in front of computer and television.
 - 2. Staying away from tranquilizers and stimulants.

Worksheet

- 1. 1. skull backbone ribcage.
 - 2. slightly movable freely movable
 - 3. axial appendicular 4, 12
 - 5. skeletal system muscular system.
- 2. [A] 1. To prevent the friction between vertebrae during motion.
 - 2. Because the ribcage protects the heart and lungs.
- [B] 1. (✔)
- 2. (x)
- 3. [A] 1. It protects the brain.
 - 2. It protects the spinal cord.
 - 3. They allow eating, drinking, writing and holding things.
 - [B] 1. a
- 2 0
- 3. b

3. (1)

4. [A]

Point of comparison	Upper limbs	Lower limbs
	They are humerus bone, forearm bones and hand bones.	They are femur bone, shaft bones and fool bones.

Answers of Worksheets

- [B] 1. femur bone.
- 2. vertebral column.
- 4. Ribcage. 3. knee joint.
- 5. 1. bones of lower limbs.
 - 2. 1) Femur bone. (2) Shaft bones
 - 3 Foot bones.
 - 3. They allow walking, running, standing and carrying the rest of the body.

General Exercise of the School Book on Unit



- 1. 1. a. nerve cell axon.
 - 2. c. spinal cord. 3. a. two bones.
 - 4. a. immovable.
- 2. 1. Neuron.
- 2. Spinal cord.
- 3. Reflex action.
- Appendicular skeleton.
- 3. 1. In front of the cerebellum in the brain.
 - 2. At the back area of the brain below the two cerebral hemispheres.
 - 3. Inside the spinal cord.
 - 4. In a channel within a series of vertebrae in the backbone.
- 4. 1. It keeps the balance of the body during movement.
 - 2. They allow the movement between bones.
 - 3. They control the voluntary movements of the body.
 - They receive nerve impulses from the sense organs and send the suitable responses to these impulses.
 - They contain the centers of thinking and memory.
 - 4. It protects the heart and the lungs.
 - It helps in the inhalation and the exhalation processes.
- 5. 1. Due to the reflex action made by the spinal cord
 - 2. Because medulla oblongata controls all the involuntary processes such as heartbeats.



- 1. [A] 1. cerebellum medulla oblongata.
 - 2.33 spinal cord
 - 3. gray white
 - 4. pelvic shoulder
 - IBI 1. Cerebellum
 - 2. It maintains the balance of the body during the movement.
- [A] 1. b. keeping close to computer.
 - 2. b. 12 pairs of cranial nerves and 31 pairs of spinal nerves.
 - 3. b. Spinal cord
- 4. c. sternum
- [B] 1. Because it allows the movement in one direction only
- 2. To protect them.
- 3. [A] 1. Freely movable joint.
 - 2. Immovable joints.
 - 3. Slightly movable joint.
 - 4. Freely movable joint.
 - [B] 1. It is the location at which bones meet each other.
 - 2. They are the joints that don't allow any movement between bones.
- 4. [A] 1. (X)
- 2.(x) 3.(x) 4.(\sqrt)
- [B] 1. The body can't bend in different directions and there is no protection to the spinal cord.
 - 2. The withdrawal of your hand will occur quickly.

Model Exam on Unit (4)

- 1. [A] 1. the cell body the axon.
 - 2.12 31
 - 3. the skull the backbone.
 - 4. cartilages vertebrae
 - [B] 1. All the involuntary processes of the body such as heartbeats will be disturbed and causes death.
 - 2. Friction takes place between the vertebrae causing harms to the backbone.

الحاصر ملوم لنات (Guldo Answers) / ١ ب / لدم ١ (٠٠٠)

- 2. [A] 1. Lower limbs in human ...
 - 2. _ called axon terminals.
 - 3. Medufra oblongata regulates ...
 - 4, _ the lungs and _
 - [B] 1. To maintain the nervous system healthy as they affect the sleeping periods, the heartbeats and lead to nervous tension.
 - Because it allows the movement in all directions.
- 3. (A) 1. The brain.
- 2. The spinal cord.
- 3. The joint.
- 4. Medulla oblongata.

[B]

Point of comparison	Cranial nerves	Spinal nerves
Definition:	They are nerves that emerge from the brain.	

4. [A] 1. 5. 33

2. d. Medulla oblongata

3 d Knee.

4. c. spinal cord.

(B) 1. ① Humerus

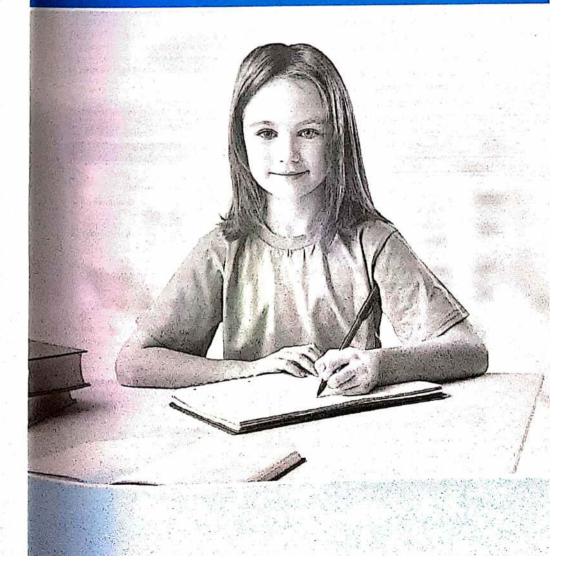
(1) Forearm

2. It protects the brain.

PART

3

Guide Answers of Final Examinations





Guide Answers of Final Examinations

Cairo Governorate

Manor House International school

- 1. (A) 1. Carbon dioxide gas.
 - 2. Celsius thermometer.
 - 3. The joint.
- 4. Mass.
- (B) 1. It will cause global warming and suffocation of living organisms.
 - 2. The withdrawal of your hand will occur quickly.
- 2. (A) 1. 37
- 2. oxygen
- 3. the skeletal system the muscular system.
- 4. gram kilogram.
- (B) 1. It protects the lungs and the heart.
 - It helps in the inhalation and exhalation processes.
 - 2. It is used to sterilize the medical thermometer
- 3. (A) 1. a. 10 kg.
 - 2. a. nerve cell axon.
 - 3. c. Plastic
 - 4. a. oxygen
 - (B) 1. Its weight on Earth:

Rule: the object mass (kg.) x 10 weight on Earth = 18 x 10 = 180 Newton.

2. Its weight on moon:

Rule: the object weight on Earth $\times \frac{1}{6}$ weight on moon = $180 \times \frac{1}{5} = 30$ Newton.

- 4. (A) 1. (x)
- 2 (V) 3.(x)
- (B) medical thermometer.
 - it prevents mercury from returning back to the bulb quickly in order to read the measurement easily.

Heliopolis Modern Language School

- 1. 1. c. carbon dloxide
- 2. a. spinal nerves
- 3. d. carbon.
- 4. c. 60 N.
- 5. a. joints between skull bones.
- 6. a. medical thermometer.

- 2. (A) 1. nervous
- 2. Copper
- 3. manganese dioxide.
- 4. spring scale.
- (B) 1. catalyst.
- 2. legumes.
- 3. (A) 1. ribcage 3. Mass
- 2. Oxidation
- 4. reflex action. (B) 1. They prevent friction between
 - vertebrae during movement. 2. It is used for cutting and welding metals.
- 4. (A) 1. (V) 2. (1) 3. (x) 4. (x)

Points of comparison	Cranial nerves	Spinal nerves
1. Definiton :	They are nerves that emerge from the brain.	They are nerves that emerge from the spinal cord.
2. Number :	12 pairs.	31 pairs.

3 St. Joseph School

- 1. (A) 1. a. spinal cord.
 - 2. c. Daniel Rutherford.
 - 3. c. 2
- 4. b. heavier
- 5. a. 12
- (B) 1. liquid (c).
 - 2. celsius thermometer.
- (C) Glass.
- 2. (A) 1. carbon dioxide 3. three
- 2.1000
- (B) 1. It will cause global warming and suffocation of living organisms.
 - 2. Iron will combine with oxygen in the presence of moisture (water), so iron nails will rust.
- (C) 1. b. 78%
- 2. c. 21%
- 3. a. 1%
- 3. (A) 1. The atmosphere.
 - 2. Mass.
 - 3. Locomotory system.
 - 4. Carbon dioxide gas.
 - 5. Ozone layer.
 - (B) 1. nerve
 - 2. (a) Cell body.
- (b) Dendrites.
- Myelin sheath.

Answers of Final Examinations

- (C) 1. It is used to measure the weight of any body.
 - 2. It is used for cutting and welding metals
- 4. (A) 1. (X) 4. (1)
- 2. (1)
- 5. (1)
- (B) 1. Because it allow heat to flow through.
- 2. Because it doesn't help in burning.
- (C)

Point of comparison	Central nervous system	Peripheral ner- vous system
Structure :	It consists of the brain and the spinal cord.	It consists of cranial nerves and spinal nerves.

El-Helmia Official Language School

- 1. (A) 1. Celsius
- 2. Carbon dioxide

3. (x)

- 3. Oxygen
- 4. Newton.
- (B).1. It is used to measure the weight of any body.
 - 2. It protects the lungs and the heart.
 - It helps in the inhalation and exhalation processes (breathing).
- 2. (A) 1. Because oxygen scarcely dissolves In water.
 - 2. Because mercury:
 - a. is a liquid metal that can be seen easily through the thermometer glass.
 - b. is a good conductor of heat.
 - c. is a regular expanding material.
 - d. doesn't stick to the walls of the capillary tube.
 - e. gives a wide range to temperature measurement.
 - (B) 1. Heat insulators.
 - 3. Skull.
- 2. Spinal cord. 4. Temperature.

4. (1)

- 3. (A) 1. (x)
 - 2. (x)
- 3. (x)
 - (B) 1. The medical thermometer will be damaged, because the boiling point of water is 100°c.
 - 2. Iron will combine with oxygen in the presence of moisture (water), so iron nails will rust.

- 4. (A) 1. b. 33 2. b. Freely movable 3. c. oxidation. 4. c. 12
 - (B) 1.3 kg
 - 2. Its weight on Earth's surface = Its mass (kg.) x 10
 - = 3 x 10 = 30 Newton.

Leaders Language Schools

- (A) 1. d. spinal nerves.
 - 2. a. skull, backbone and ribcage.
 - 3. a. magnesium oxide.
 - 4. c. copper.
 - (B) 1. Because they don't let heat flow through as they are bad conductors of heat.
 - 2. Because oxygen scarcely dissolves in water.
- 2. (A) 1. Mass
- 2. Temperature.
- 3. Ozone layer.
- 4. Spinal cord.
- (B) 1. Train accidents will occur.
 - 2. The mercury will return back quickly to the mercury bulb before determining the temperature reading.
- 3. (A) 1. catalyst
 - 2. weight large mass
 - 3. increases
 - 4. Nitrogen
 - (B) 1. It is used to measure the temperature of human body.
 - 2. It is used for cutting and welding
 - 3. It maintains the balance of the body during the movement.
 - 4. It protects the brain.
- 2. (x) 3. (v) 4. (x) 4. (A) 1. (X)
 - (B) a. 30 kg.
 - b. Its weight on the Earth
 - = Its mass (kg.) × 10 = 30 x 10 = 300 Newton.
 - c. Its weight on the moon
 - = Its weight on the Earth $\times \frac{1}{6}$
 - $= 300 \times \frac{1}{6} = 50$ Newton.

Giza Governorate

Genius Language School

- 1. (A) 1. Newton 1kg.
 - 2. cell body axon.
 - 3. Burning oxidation
 - 4. Carbon dioxide calcium carbonate
 - (B) 1. Weight on Earth = Its mass x 10 = 6 x 10 = 60 Newton.
 - 2. Weight on moon
 - = Its weight on the Earth $\times \frac{1}{6}$
 - $= 60 \times \frac{1}{5} = 10 \text{ Newton.}$
- 2. (A) 1, c. 12
- 2. a. immovable.
- 3. a. protein.
- 4. Copper
- (B) 1. The withdrawal of your hand will occur
 - 2. Carbon dioxide is produced during fermentation, so the bread becomes porous and tasty.
- 3. (A) 1. Spinal cord.
 - 2. The backbone
 - 3. Temperature.
 - 4. Reflex action
 - (B) 1. Because mercury:
 - a. is a liquid metal that can be seen easily through the thermometer glass.
 - b. is a good conductor of heat.
 - c. is a regular expanding material.
 - d. doesn't stick to the walls of the capillary tube.
 - e. gives a wide range to temperature measurement.
 - 2. Because it easily dissolves in water.
 - 3. Because medulla oblongata controls all the involuntary proceses (as heartbeats, movement of the respiratory system parts during breathing, movements and functions of the digestive system).
- 4. (A) 1. (x) fix nitrogen
 - 2. (x) of the upper limb
 - 3. (x) in the presence of manganes dioxide gas.
 - 4. (1)

- (B) 1. a. Is calcium carbonate.
 - b. Is dilute hydrochloric acid.
 - 2. a. It is used in making dry ice which is used in refrigeration.
 - b. It is used in extinguishing fires.
 - c. It is used in making soft drinks
 - d. It is used in making bubbled and tasty bread when adding yeast to
 - e. It is necessary for photosynthesis process of green plants to produce food and oxygen gas.

El-Agoza Directorate

- 1. (A) 1. c. carbon dioxide 2. c. 12 pairs 4. b. Gram
 - 3. b. copper.
 - (B) 1. It is used to measure the temperature of liquids.
 - 2. a. It is used in making dry ice which is used in refrigeration.
 - b. It is used in extinguishing fires.
 - c. It is used in making soft drinks.
 - d. It is used in makin bubbled and tasty bread when adding yeast to dough.
 - e. It is necessary for photosynthesis. process of green plants to produce food and oxygen gas.
- 2. (A) 1. Mass.
 - 2. Skull.
 - 3. Nitrogen gas.
 - 4. Oxy-acetylene flame.
 - (B) 1. Its mass on the moon

 - = Its mass on the Earth
 - = 18 kg.
 - 2. Its weight on the Earth
 - = Its mass on the Earth x 10
 - = 18 x 10 = 180 Newton.
- 3. (A) 1. 35 42
 - 2. hydrogen peroxide manganese dioxide.
 - 3. cerebrum.
 - 4. balance spring
 - (B) 1. three
 - 2. Medulla oblongata

- ■. (A) 1. (x) 2. (x) 3. (√) 4. (x)
 - (B) 1. Because they don't let heat flow through as they are bad conductors of heat
 - 2. Because medulla oblongata controls all the involuntary processes (as heartbeats, movement of the respiratory system parts during breating, movements and functions of the digestive system).

North Giza Directorate

- 1. (A) 1. Weight.
- 2. Nitrogen.
- 3. Temperature.
- 4. Spinal cord.
- (B) 1. They will react together and carbon dioxide gas will evolve.
 - 2. Iron will combine with oxygen in the presence of moisture (water) so iron nails will rust.
- 2. (A) 1. 33
- 2. Ozone
- 3. Spring scale
- 4. Mercury
- (B) 1. To prevent mercury from returning back to the mercury bulb quickly in order to read the measurement easily.
 - 2. Because it doesn't burn and doesn't help in burning.
- 3. (A) 1. manganese dioxide. 2. Medical
 - 3. place of matter
 - 4. the skull
 - (B) 1. Humerus bones. 2. Iron.
- 4. (A) 1. b. photosynthesis
 - 2. a. 10 N
 - 3. c. Medulla oblongate
 - 4. b. gain heat.
 - (B) 1. It is used for cutting and welding metals.
 - 2. It is used to measure the temperature of liquids.

6" of October Directorate

- 1. (A) 1. balance scale kilogram.
 - 2. skull ribcage.
 - 3. photosynthesis
 - 4. nitrogen.
 - (B) 1, 12 Pairs.
- 2. nitrogen

- 2. (A) 1. (x) 2. (x) 3. (\sqrt) 4. (\sqrt)
 - (B) 1. Because they don't let heat flow through as they are bad conductors of heat.
 - 2. Because mercury:
 - a, is a liquid metal that can be seen easily through the thermometer
 - b. is a good conductor of heat.
 - c. is a regular expanding material.
 - d. doesn't stick to the walls of the capillary tube.
 - e. gives a wide range to temperature measurement.
- 3. (A) 1. Spring scale.
 - 2. The backbone.
 - 3. Carbon dioxide gas.
 - 4. Heat insulators.
 - (B) 1. Wood.
- 2. Newton
- 4. (A) 1. c. 21%
- 2. a. milky.
- 3. d. brain and spinal cord.
- 4. d. heart and lungs.
- (B) Weight of the body on Earth
 - = Its mass (kg) x 10
 - = 60 x 10 = 600 Newton.
 - Weight of the body on moon
 - = its weight on the moon $\times \frac{1}{2}$
 - $= 600 \times \frac{1}{6} = 100$ Newton.

El-Agamy Directorate

Alexandria Governorate

10

- (A) 1. weight mass.
 - 2. brain spinal cord.
 - 3. 35°C 42°C
 - 4. cranial nerves spinal nerves.
- (B) 1, its weight on the Earth's surface
 - = Its mass (kg.) x 10
 - = 12 x 10 = 120 Newton.
 - 2. Its weight on moon surface = Its weight on Earth's surface x 1/8
 - = $120 \times \frac{1}{6} = 20$ Newton.

2. (A) 1. Nitrogen.

- 2. Temperature.
- 3. Joints.
- 4. Neuron
- (B) 1. All the involuntary processes of the body will be disturbed causing death.
 - 2. The medical thermometer will be damaged, because the boiling point of water is 100°c
- 3. (A) 1. b. three similar atoms.
 - 2. a. mercury.
- 3. c. synapse
- 4. a. 2
- (B) 1. It maintains the balance of the body during the movement.
 - 2. It is used to detect the presence of carbon dioxide gas.
- 4. (A) 1. 12
- 2. equal to
- 3. good
- 4. slightly
- (B) 1. To prevent mercury from returning back to the mercury bulb quickly in order to read the measurement easily.
 - 2. To maintain the nervous system healthy as they affect the sleeping periods, the heartbeats and lead to nervous tension.

Al-Montazah Directorate

- 1. 1. axial skeleton appendicular skeleton.
 - 2.35 42
 - 3. kilogram Newton
 - 4. 12 pairs 31 pairs
 - 5. plastic wood.
 - 6. photosynthesis respiration
- 2. 1. Spinal cord.
- 2. Mercury.
- 3. Nitrogen gas.
- 4. Weight.
- 5. Joints.
- 6. Temperature.
- 3. (A) 1. (x)
- 2. (x)
 - 3. (1) 4. (1)
- (B) 1. Because aluminium is a good conductor of heat.
 - 2. Because it doesn't burn and doesn't help in burning.
- 4. (A) 1. Its mass on the moon surface = 30 kg.

- 2. Its weight on the Earth
 - = Its mass (kg.) x 10
 - = 30 x 10 = 300 Newton
- 3. Its weight on moon
- = its weight on the Earth x 1 = 300 x = = 50 Newton
- (B) 1. Humerus bone.
 - 3. Hand bones.

12 Qalyoubia Governorate

- 1. (A) 1, the place of matter.
 - 2. two nitrogen three oxygen
 - 3. slightly movable freely movable

 - 4. the brain the spinal cord.
 - 5. celsius thermometer
 - (B) 1. Cerebrum.
- 2. Ribcage.

2. Forearm bones

- 2. (A) 1. b 2
 - 2. c.magnesium oxide.
 - 3. c. 39: 357
 - 4. b. spring scale.
 - (B) 1. Because oxygen scarcely dissolves in
 - 2. Because medulla oblongata controls all the involuntary processes (as heartbeats, movement of the respiratory system parts during breathing, movements and functions of the digestive system).
- 3. (A) 1. (x) made of wood or plastic.
 - 2. (1)
- 3. (1)
- 4. (x) Carbon dioxide is
- (B) 1. The human body can't move.
- 2. The mercury will return back quickly to
- the mercury bulb before determining the temperature reading.
- 4. (A) 1. Spinal cord. 2. Nitrogen.
 - 3. Oxy-acetylene flame.
 - 4. The locomotory system.
 - (B) 1. It is used as a heat insulating material in making the insulating glass windows.
 - 2. They are connected to the neighbouring neurons to form syhapse:

Menofia Governorate

- 1. (A) 1. a. 20
- 2. c. mercury.
- 3. b. Ozone layar
- 4. a. reflex action.

(B)

13

Points of comparison	Celsius thermometer	Medical thermometer
Range of scale :	From 0°C to 100°C	From 35°C to 42°C
Used liquid:	Mercury.	Mercury.

- 2. (A) 1. the place of matter. 2. Copper
 - 3. lamps.

3. wood.

- 4, neuron.
- (B) 1. Heat insulators.
- 2. Catalyst.
- 3. (A) 1. bones
- 2. increased 4. equal to
- (B) 1. To prevent the leakage of heat.
 - 2. Due to the formation of calcium carbonate (white ppt.) which is insoluble in water and causes the turbidity of limewater.
- 4. (A) 1. f
- 2. e 4. a
- (B) 1. The mercury will return back quickly to the mercury bulb before determining the temperature reading.
 - 2. Carbon dioxide is produced during fermentation, so the bread becomes porous and tasty.

Dakahlia Governorate

- 1. (A) 1. Weight Newton
 - 2. the hand Ice.
 - 3. Oxygen carbon dioxide
 - 4. Spinal cord cerebellum
 - (B)

Points of comparison	Medical thermometer	Celsius thermometer
Scale :	From 35°C to 42°C	From 0°C to 100°C
Constriction:	Present.	. Absent.

- 2. (A) 1. (x) 2. (\sqrt{)} 3. (x) 4. (x)
 - (B) 1. To keep our bodies warm as they prevent the leakage of heat.
 - 2. Due to the formation of calcium carbonate (white ppt.) which is insoluble in water and causes the turbidity of limewater.
- 3. (A) 1. Newton.
 - 2. Heat insulators.
 - 3. Oxidation.
 - 4. Medulla oblongata.
 - (B) 1. The medical thermometer will be damaged, because the boiling point of water is 100°C.
 - 2. Magnesium ribbon keeps burning for a short time producing magnesium oxide which is a white substance and carbon (coal) which is a black substance.
- 4. (A) 1. c. 60 10
- 2. d. Air 4. d. 24
- 3. b. proteins.
- (B) 1. It is the degree of hotness or coldness. of a body.
 - 2. a. Figure (1).
- b. Figure (2).

15 Sharkia Governorate

- 1. (A) 1. Celsius medical

 - 2. Carbon dioxide
 - 3. freely slightly 4. kilogram - Newton
 - (B) 1. They are used in making :
 - a, cooking pots.
 - b. Kettles that are used in houses and factories.
 - 2. Protects the Earth from harmful radiations that come from the Sun.
- 2. (A) 1, a. 2 kg.
 - 2. a. calcium carbonate
 - 3. b. Spinal cord
 - 4. a. 39°C and 375°C
 - (B) 1. Because oxygen scarcely dissolves in
 - 2. To prevent mercury from returning back to the mercury butb quickly in order to read the measurement easily.

- 3. (A) 1. Oxidation. 2. Weight.
 - 3. Cerebellum, 4. Heat conductors.
 - (B) 1. Train accidents will occur.
 - 2. It will cause global warming and suffocation of living organisms.
- 4. (A) 1. () 2. (x) 3. (1) 4. (1)
 - (B) 1. Plastic.
 - 2. Shaft bones.
 - 3. Easily dissolves in water.
 - 4. Spring scale.

16 Gharbia Governorate

- 1. (A) 1. decreases 2. ethyl alcohol 3. Burning
 - 4. the central nervous system
 - (B) 1. Because the scale of the medical thermometer ranges from 35°C to 42°C, while the temperature of boiling water is 100°C, so the medical thermometer will break
 - 2. Because it remains in a liquid state between (- 39°C) and (357°C).
- 2. (A) 1. Newton. 3. Catalyst
- 2. Temperature. 4. Backbone
- (B) 1. Train accidents will occur.
 - 2. Hydrogen peroxide is decomposed into water and oxygen gas, while manganese dioxide doesn't change in its quantity or structure.
- 3. (A) 1. 10
- 2. constriction
- 3. Water
- 4. cerebellum
- (B) 1. It is used to measure the temperature of liquids.
 - 2. It is used to produce carbon dioxide gas by fermentation process to make bubbled bread.
- 4. (A) 1. b. spring scale.
- 2. c. copper.
- 3. c. proteins.
- 4. d. cerebrum.
- (B) 1. a. dilute hydrochloric acid. b. calcium carbonale.
 - 2. They are the malerials that let heat flow through.

Damietta Governorate

- 1. (A) 1. spring scale.
 - 2, manganese dioxide.
 - 3. medulla oblongata.
 - 4. Copper
- (B) 1. They are used in making the handles
 - a. cooking pots. b. Electric iron. c. kettles.
 - 2. It is used to measure the temperature of liquids.
- 2. (A) 1. Oxy-acetylene.
- 2. Mercury.
- 3. Backbone
- 4. weight.
- (B) 1. The medical thermometer will be damaged, because the boiling point of water is 100°C.
 - 2. Nitrogen oxides are formed, where they reach the soil during raining.
- 3. (A) 1. c. Its mass x 10
- 2. b. more than
- 3. a. shoulder
- 4. a. 0°C
- (B) 1. Because it protects the Earth from harmful radiations that come from the
 - 2. To prevent mercury from returning back to the mercury bulb quickly in order to read the measurement easily.
- 4. (A) 1. Temperature
- 2. 2 kg.
- 3. photosynthesis
- 4. slightly movable
- (B) 1. Carbon dioxide gas is prepared by adding dilute hydrochloric acid to calcium carbonate, then carbon dioxide gas is collected by the upward displacement of air.
 - 2. By using ethyl alcohol.

Kafr El-Shellch Governorate

1. (A) 1. kilogram - Newton

18

- 2, respiration combustion
- 3. brain spinal cord.
- carbon dioxide limewater.
- (B) 1. To force the mercury back to the mercury bulb.
 - 2. To prevent the friction between vertebrae during motion.

- 2. (A) 1, b, thermometer. 2. d. 78%
 - 3. d. Spinal cord 4. c. 300 gm.
- (B) 1. Objects mass on moon = 30 kg.
 - 2. Object's weight on the Earth
 - = Mass object × 10 = 30 × 10
 - = 300 Newton.
- 3. (A) 1. Heat conductors. 2. Catalyst.
 - 3. Neuron.
- 4. Kilogram.
- (B) 1. It is a device that is used to measure the weight of any object.
- 2. a. It is used in making dry ice which is used in refrigeration.
 - b. It is used in extinguishing fires.
 - c. It is used in making soft drinks.
- d. It is used in making bubbled and tasty bread when adding yeast to dough.
- e. It is necessary for photosynthesis process of green plants to produce food and oxygen gas.
- 4. (A) 1. (X) 2. (x) 3. (1) 4. (x)
- (B) 1. It will cause global worming and suffocation of living organisms.
 - 2. Because it allows the movement in one direction only.

19 Behira Governorate

- 1. (A) 1. 0 100
- 2.1
- 3. immovable
 - 4. 39°C 357°C
- (B) 1. Carbon dioxide is produced during fermentation, so the bread becomes porous and lasty.
- 2. The body will lose its balance.
- 2. (A) 1. Newton.
- 2. thermometer.
- 3. Neuron.
- 4. Heat insulators.
- (B) Is changing the volume of a liquid by changing the temperatury where, liquids expand by heating and contract by cooling.
- 3. (A) 1. Copper
- 2 increases
- 3. nitrogen
- 4. white

- (B) 1. To prevent mercury from returning back to the mercury bulb quickly in order to read the measurement easily.
 - 2. Because oxygen scarcely dissolves in water.
- 4. (A) 1. c. Air
- 2. a. proteins.
- 3. c. Dendrites
- 4. c. 35:42
- (B) 1. Its mass on moon = 30 kg.
 - 2. Its weight on the Earth

 - = Its mass (kg) x 10
 - = 30 x 10 = 300 Newton.

20 Ismailia Governorate

- 1. (A) 1. 0°C 100°C
 - 2.33 123. balance - spring
 - 4. carbon dioxide oxygen
 - (B) 1. Medical thermometer and celsius thermometer according to the constriction:

Point of comparison	Medical thermometer	Celsius thermometer
Constriction :	Present	Absent

2. Heat conductors and heat insulators according to definition

Point of comparison	Heat conductors	Heat Insulators
Definition:	They are materials that let heat flow through.	They are materials that don't let heat flow through.

- 2. (A) 1. nitrogen
 - 3. Spinal corde
- 2.250 4. Copper
 - (B) 1. Protects the Earth from harmful radiations that come from the Sun. 2. Keep our bodies worm as they prevent
- 3. (A) 1. Slightly movable joints.

the leakage of heat.

- - 2. Oxidation 3. Weight. 4. Temperature.
- (B) 1. a. carbon dioxide.
 - b. the upward displacement of air.
 - 2. The heat fransfers from object A to the object B.

- 2. a. calcium carbonate
- 3. c. the human body.
- 4. b. increases.
- (B) 1. Because it remains in a liquid state between (- 39°C) and (357°C).
 - 2. Because it acts in this reaction as a catalyst

21 **Bani Suaf Governorate**

- 1. (A) 1. b. spring scale.
 - 2. d. carbon dioxide
 - 3. a. 78%
- 4. elbow.
- (B) 1. It protects the brain.
 - 2. It is used to measure the temperature of human body.
- 2. (A) 1. (x) 2. (\sqrt) 3. (1)
 - (B) 1. Because aluminium is a good conductor of heat.
 - 2 Because is doesn't burn and doesn't help in burning.
- 3. (A) 1. c 2 d 3. b 4. a
 - (B) 1 Weight on the Earth
 - = Object Mass (kg) x 10 = 12 . 10 = 120 Newton.
 - 2. Weight on the moon
 - = Weight on the Earth x 1
 - $= 120 \times \frac{1}{6} = 20 \text{ Newton.}$
- 4. (A) 1. All the involuntary processes of the body will be disturbed causing death.
 - 2. Train accidents will occur.
 - (B) 1 Gram
- 2.0°C 4. Heat
- 3. Cerebollum

22 Minia Governorate

- 1. 1 b increases
- 2 a. Copper.
- 3. a ethyl alcohol 5. c. carbon dioxide
- 4 b oxygen 6 a Spinal cord
- 2. (A) 1. balance spring
 - 2 Cooking pots kettles
 - 3. dilute hydrochloric acid calcium carbonate.
 - 4. brain spinal cord

- (B) 1. Slightly movable.
 - 2. Freely movable.
- (C) 1. It protects the brain.
 - 2. It maintains the balance of the body during the movement.
- 3. (A) 1. Weight.
- 2. Oxygen gas.
- 3. Nitrogen.
- 4. Medulla oblongata.
- (B) 1. Its mass on the moon = 30 kg
 - 2. Its weight on the Earth
 - = Its mass (kg) x 10
 - = 30 x 10 = 300 Newton.
- (C) 1. Because it doesn't burn and doesn't help in burning.
 - 2. Because it allows the body to bend in different directions and it protects the spinal cord.

4. (A)

Points of comparison	Medical thermometer	Celsius thermometer
1. Scale :	From 35°C to 42°C	From 0°C to 100°C
2. Usage :	Il is used to measure the temperature of the human body	It is used to measure the temperature of the liquids.
3. Used liquid :	Mercury.	Mercury.

- (B) 1. (x) 2. (x) 3. (√) 4. (x) (C) 1. It is used in making dry ice which is
 - used in refrigeration.
- 2. It is used in extinguishing fires.

23 Assiut Governorate

- 1. (A) 1. Newton 2. nitrogen 3. good 4.33
 - (B) 1. Its mass on the moon = 30 kg.
 - 2. Its weight on the Earth
 - = its mass (kg) x 10
 - = 30 x 10 = 300 Newton.
- 2. (A) 1. (x) 2. (\(\sigma\) 3. (x) 4. (x)
 - (B) 1 The lower limbs will move in one direction only
 - 2. It will cause global warming and suffocation of living organisms.

- 3. (A) 1. Spinal cord.
 - 2. Oxy-acetylene flame.
 - 3. Heat insulators. 4. Mass.
 - (B) 1. Because it protects the Earth from harmful radiations that come from the Sun.
 - 2 Recause the skull protects the brain.
- 4. (A) 1. c. mercury
- 2 b. Glass
- 3 c. Medulla oblongata
- 4. d. Carbon dioxide
- (B) 1, medical
 - 2. (a) Mercury bulb. (b) Constriction
 - (c) Capillary tube
 - (d) Transparent thick glass tube.

24 Sonag Governorate

- 1. (A) 1. b. Copper
 - 2. b. Ozone layer
 - 3. c. keeping the bady balanced.
 - 4. a. mass.
 - (B) 1. It's weight on Earth
 - = It's mass x 10
 - = 30 x 10 = 300 Newton.
 - 2. It's weight on moon
 - = Its weight on Earth x =
 - $= 300 \times \frac{1}{c} = 50$ Newton.
- 2. (A) 1. (V) 2. (x) 4. (1) 3. (x) (B)

Points of comparison	Celsius thermometer	Medical thermometer From 35°C to 42°C It is used to measure the temperature of the human body	
1. Range of scale :	From 0°C to 100°C		
2. Its Uses ;	It is used to measure the temperature of figuids.		

- (A) 1. Axial skeleton. 2. Weight.
 - 3. Neuron.
 - 4. Carbon dioxide gas.
 - (B) 1. Because it doesn't help in burning.
 - 2. Because wood and plastic are bad conductors of heat.
- (A) 1 balance scale 3. water
 - 2. slightly movable 4 Photosynthesis

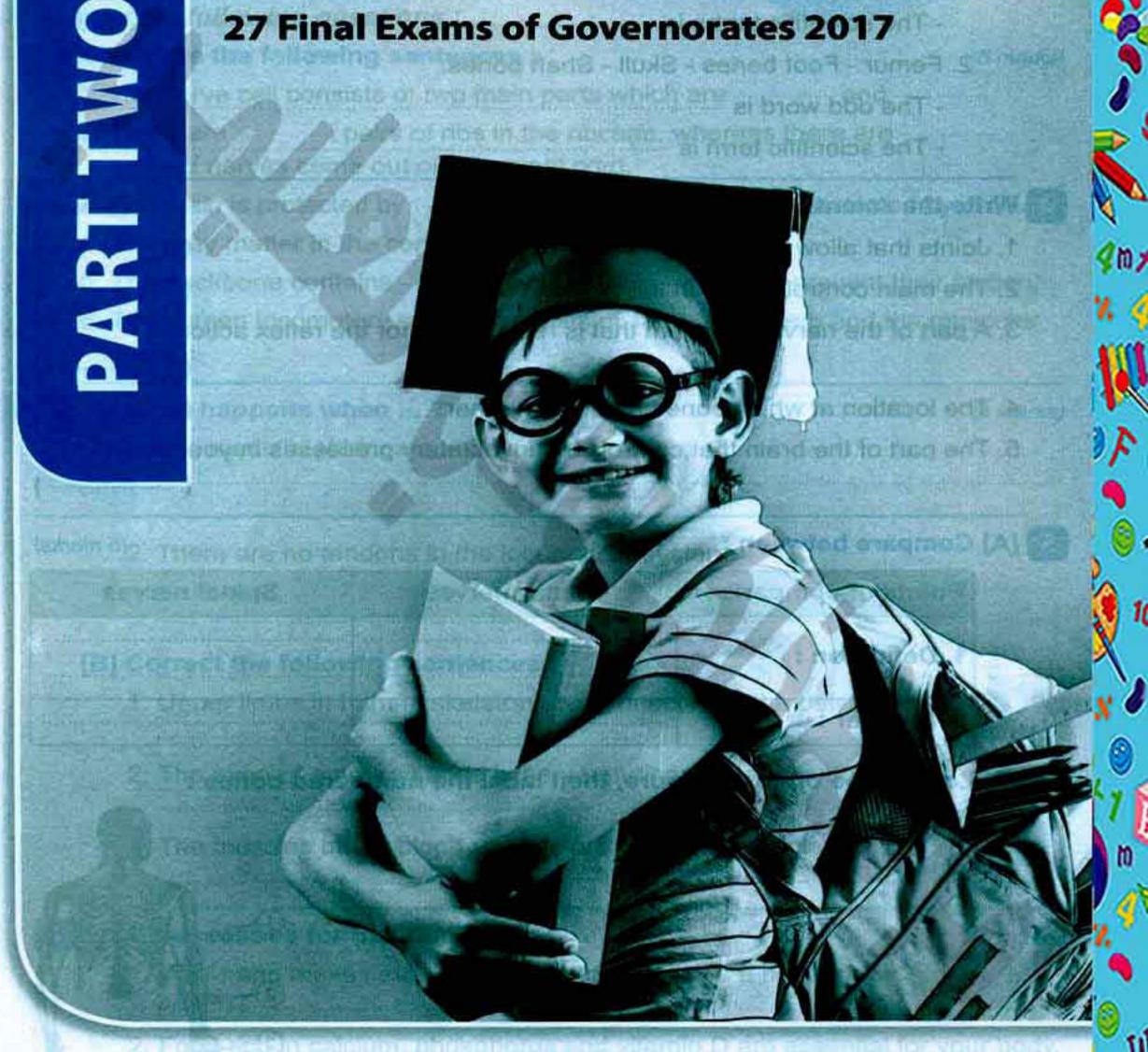
- (B) Spinal cord.
 - (a) White matter. (b) Gray matter.

25 Qena Governorate

- 1. (A) 1. balance spring
 - 2.35 42
 - hydrogen peraxide manganese dioxide
 - 4. brain skull
 - (B) 1. The body's weight on the moon
 - = Its weight on Earth $\times \frac{1}{6}$
 - 10 = Its weight on Earth $\times \frac{1}{6}$
 - The weight on Earth's surface
 - = 10 x 6 = 60 Newton.
 - 2. The body's weight on the Earth
 - = Its mass × 10
 - $60 = Its mass \times 10$
 - The mass of the body = $\frac{60}{10}$ = 6 kg.
- 2. (A) 1. a. expand.
 - 2. b. calcium carbonate

 - 4. d. humerus 3. d. spinal cord. (B) 1. The weight of the body decreases as the gravitational force of the Earth for
 - this person decreases. 2. The medical thermometer will be damaged, because the boiling point of water is 100°C.
- 3. (A) 1. OZone.
- 2 Mass.
- 3 Joints.
- 4. Nitrogen
- (B) 1. Because it allow heat to flow through.
 - 2. Because it
 - Controls the voluntary movements of the body as running in races.
 - Receives nerve impulses from sense organs and sends the suitable responses to these impulses.
 - Contains the centers of thinking and memory
- 3.(1) 4. (x) 4. (A) 1. (X) 2.(x)
- (B) 1. nerve cell.
- 2. (a) Cell body.
- (b) Dendrites.
- (c) Axon.

27 Final Exams of Governorates 2017



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Final Exams of Governorates

2017

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		- 85

Cairo Governorate

The Educational Directorate

Answer	the fol	lowing	quest	ions	÷

1	[A]	Complete	the fol	lowing	statements	:
		and the second				

- 1. The measuring unit of weight is, while the measuring unit of mass is
- 2. Copper is from conductors of heat.
- Carbon dioxide molecule consists of one carbon atom linked with two atoms.
- 4. Nitrogen combines with a lighted magnesium composing substance.
- 5. The ribcage consists of pairs of ribs.

[B] Give reasons for :

- Clear limewater becomes turbid when carbon dioxide passes in it.
- Oxygen cylinders are used during climbing mountains.

[A] Write the scientific term of the following statements:

- 2. The amount of matter in an object.
- 3. The main control center in human body.
- 5. Organ in the central nervous system responsible for the reflex action.

[B] Mention one function of:

- 1. The spring scale :
- 2. Celsius thermometer :
- 3. Ozone layer :

55



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[A] Put (V) in front of c	officor statements and (Secretary and the second of th		
1. Oxygen gas repres	sents 78% of the volume of	f the atmosphere.	()
2. Cooking pots are n	nade of plastic.		()
3. Nitrogen gas is cal	led azote which means "life	e gas".	()
4. Air is from good co	nductors of heat.		()
	ne is used in cutting and w	elding metals.	()
	ains the balance of the bod		()
[B] What happens in the			3	- 55
	ure the man to noise.			
1. Continuous expos	ure the mair to hoise.			
2 Increase of carbon	n dioxide percentage in the	atmosphere		
Z. Increase of carbon	Tuloxide percentage in the			
[A] Choose the correct	answer:			
1. The lower fixed po	oint in celsius thermometer	scale represents the		••••
freezing point.				
a. liquids	b. mercury	c. water		
2. Backbone consist	s of bony vertebra	ae.		
a. 12	b. 21	c. 33		
From the freely m	ovable joints is			
a. shoulder	b. elbow	c. knee	Po	
4. A weight of body i	s 2 Newton so its mass is	equal to		
a. 0.2 gm	b. 20 gm	c. 200 gm		
Hydrogen peroxid	le dissociates in the preser	nce of manganese diox	ide	
(as a catalyst) into	ENGINEER CONTRACTOR CO			b
(as a Catalyst) into	o			
a. water	b. oxygen gas	c. water & oxyger	gas	
	b. oxygen gas	c. water & oxyger	gas	
a. water	b. oxygen gas g figure of medical	c. water & oxyger	gas	
a. water [B] Notice the following	b. oxygen gas g figure of medical label it :	c. water & oxyger	gas	₽
a. water [B] Notice the following thermometer, then	b. oxygen gas g figure of medical label it :	c. water & oxyger	gas	₽ 3



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2	Cina Covernorate	
	Giza Governorate	

The Educational Directorate

Answer	the	following	quest	ions	:
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ΓΔ1	Choose	the	correct	answer
	CHOOSE	riie	COLLECT	allowel

- 1. From the substances which are bad conductors of heat is
 - a. iron

b. wood

- c. copper
- 2. Which of the following gases have great percentage in atmospheric air ?
 - a. Oxygen
- b. Nitrogen
- c. Carbon dioxide
- 3. The joints which allow movement in one direction only are joints.
 - a. immovable
- b. slightly movable
- c. freely movable
- The operation of thermometer depends on the change of with the change in temperature.
 - a. gases volume
- b. liquid volume
- c. liquid mass
- 5. The ribcage in man consists of pairs of ribs.
 - a. 10

b. 11

- c. 12
- 6. An object whose mass is (200 gm) on Earth's surface, so its weight equal
 - a. 2 Newton.
- b. 20 Newton.
- c. 200 Newton.

[B] What happen when ... ?

- 1. We get rid of soil bacteria.
- 2. Exhaled air passes through clear limewater.

.......

[A] Complete the following statements:

- The weight of the body on moon's surface = of its weight on Earth's surface.
- 2. Heat is a form of the forms of
- 3. Divers use cylinder during diving under water.
- 4. The centers of thinking and memory lie in
- 5. The mass is measured by scale.
- 6. Nitrogen is used in the manufacture of which doesn't rust.

[B] Compare between good conductors and bad conductors of heat :

Point of comparison	Good conductors of heat	Bad conductors of heat
Definition :		
Definition :		

العداصر علوم لغات (Step by Step & Final Exams) / ٢ ب/ تيرم ١ (م : ٨)

21



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Part

3 [A]	Write the scientific term:		
	1. An indicator helps us to express	the state of th	e body from

point of hotness or coldness.	(
O I was adding the of the second of the second	

2. Long strips that fix muscles on bones.	()

- 5. A gas that its molecule is composed of three oxygen atoms. (......)

[B] Give reasons for :

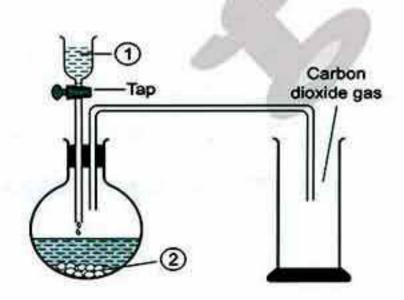
- Damage of the medulla oblongata causes death.
- Carbon dioxide is used in extinguishing some fires.

4 [A] Correct the underline word in the following statements:

- 4. The cerebellum lies at the back area of the brain above the two cerebral hemispheres.
- 5. Hydrogen peroxide remains without change in quantity or properties during the preparation of oxygen gas.
- 6. The liquid that is used in making the thermometers is water. (......

[B] In the opposite figure answer the following :

- 1. Number ① Is
- 2. Number ② Is



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Alexandria Governorate

The Educational Directorate

Answer	the	following	questions	:
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and oxygen.

Answer the following questions :	
[A] Complete the following :	
The mass can be measured by and the weight can by	be measured
The neuron consists of the cell body and which end presence of	s by the
3. As the mass of the planet increases, its gravity and the weight of the object.	that leads to
Carbon dioxide is prepared in the laboratory by adding powder of	····· to the
5. Water freezes at Celsius and boils at Celsi	us.
[B] Mention the following only:	
 The substance that indicates presence of carbon dioxide. 	()
2. An example of involuntary muscle.	()
3. The product substance from the combination of magnesium	

[A] Write the scientific term of the following:

1. The part responsible for keeping the body balance of	during movement.
	()
The degree of hotness or coldness of a body.	()
3. Locations of bones meeting that allow the movemen	nt between them.
	()
4. A gas used in filling the planes and cars tires and al	so contributes in
composing gunpowder.	()

[B] Correct the underlined words:

1.	In preparing oxygen from hydrogen peroxide, Sodium h	ydroxide is used as
	a catalyst.	()
2.	12 pairs of ribs come out from the brain.	(

- 3. Iron is used in manufacturing kettles that are used in houses and factories.
- 4. The joint of shoulder is one of slightly movable joints.

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1. The mass of one litre of water equals	Part			
a. 1 gm. b. 1 kg c. 100 Newton. d. 100 gm. 2. Ozone gas consists of	3 [A]	Choose the right answer from the	following:	
2. Ozone gas consists of a. One atom. b. two similar atoms. c. three similar atoms. d. three different atoms. 3. The gas that is used with acetylene gas in welding metals a. hydrogen. b. oxygen. c. nitrogen. d. carbon dioxi 4. The centers of thinking and memory lies in a. the medula oblongata. b. the spinal cord. c. the vertebral column. d. the two cerebral hemispheres. [B] Give reasons for the following: 1. Passing the air on the hot copper during the preparation of nitrogen in lab. 2. The ribcage surrounds the heart and the two lungs. 3. Using wood in making the handle of cooking pots. 4. Using liquids in making the thermometers. 4. Using liquids in making the thermometers. 2. Number ① is a bulb contains 2. Number ② is 3. Number ③ is and its function is and its function is calculate:				4.00
a. One atom. c. three similar atoms. d. three different atoms. 3. The gas that is used with acetylene gas in welding metals			c. 100 Newton.	a. 100 gm.
c. three similar atoms. d. three different atoms. 3. The gas that is used with acetylene gas in welding metals		A Prince The Control of the Control		Name (
3. The gas that is used with acetylene gas in welding metals	1		The state of the s	A CONTRACT DECISION OF
a. hydrogen. b. oxygen. c. nitrogen. d. carbon dioxide. 4. The centers of thinking and memory lies in			THE MANAGEMENT OF THE PROPERTY OF THE PARTY.	A CONTRACTOR OF THE PROPERTY O
a. the medula oblongata. c. the vertebral column. d. the two cerebral hemispheres. [B] Give reasons for the following: 1. Passing the air on the hot copper during the preparation of nitrogen in lab. 2. The ribcage surrounds the heart and the two lungs. 3. Using wood in making the handle of cooking pots. 4. Using liquids in making the thermometers. 4 [A] In the opposite figure that illustrates the structure of the medical thermometers. 3. Number ① is a bulb contains 2. Number ② is 3. Number ③ is and its function is 4. The thermometer scale starts from °C to °C. [B] If the mass of a body equals 30 kg on the Earth surface. Calculate:	10		THE RESERVE THE PARTY OF THE PA	d. carbon dioxide.
c. the vertebral column. d. the two cerebral hemispheres. [B] Give reasons for the following: 1. Passing the air on the hot copper during the preparation of nitrogen in lab. 2. The ribcage surrounds the heart and the two lungs. 3. Using wood in making the handle of cooking pots. 4. Using liquids in making the thermometers. 4 [A] In the opposite figure that illustrates the structure of the medical thermometers. 2 Number ① is a bulb contains 2 Number ② is 3. Number ③ is and its function is		4. The centers of thinking and mem	ory lies in	
[B] Give reasons for the following: 1. Passing the air on the hot copper during the preparation of nitrogen in lab. 2. The ribcage surrounds the heart and the two lungs. 3. Using wood in making the handle of cooking pots. 4. Using liquids in making the thermometers. 4 [A] In the opposite figure that illustrates the structure of the medical thermometers. 2. Number ① is a bulb contains 2. Number ② is 3. Number ③ is		a. the medula oblongata.	The state of the s	
1. Passing the air on the hot copper during the preparation of nitrogen in lab. 2. The ribcage surrounds the heart and the two lungs. 3. Using wood in making the handle of cooking pots. 4. Using liquids in making the thermometers. 1. Number ① is a bulb contains 2. Number ② is 3. Number ③ is		c. the vertebral column.	d. the two cerebi	ral hemispheres.
2. The ribcage surrounds the heart and the two lungs. 3. Using wood in making the handle of cooking pots. 4. Using liquids in making the thermometers. 4. Using liquids in making the thermometers. 1. Number ① is a bulb contains 2. Number ② is 3. Number ② is 4. The thermometer scale starts from CC to CC. [B] If the mass of a body equals 30 kg on the Earth surface. Calculate:	[B]	Give reasons for the following:		
3. Using wood in making the handle of cooking pots. 4. Using liquids in making the thermometers. 4. [A] In the opposite figure that illustrates the structure of the medical thermometers. 1. Number ① is a bulb contains 2. Number ② is 3. Number ③ is and its function is 4. The thermometer scale starts from Cto Cc. [B] If the mass of a body equals 30 kg on the Earth surface. Calculate:		1. Passing the air on the hot copper	during the preparation	of nitrogen in lab.
4. Using liquids in making the thermometers. [A] In the opposite figure that illustrates the structure of the medical thermometers. 1. Number ① is a bulb contains		2. The ribcage surrounds the heart	and the two lungs.	
[A] In the opposite figure that illustrates the structure of the medical thermoment of the medic		3. Using wood in making the handle	of cooking pots.	
1. Number ① is a bulb contains		4. Using liquids in making the therm	nometers.	
2. Number ② is	4 [A]	MM 222	- A A	nedical thermometer
3. Number ③ is		18 302 T ST 025 S		(2)
is		The Mark The Control of the Control	tion Time	36 37 38 59 40 41 42
[B] If the mass of a body equals 30 kg on the Earth surface. Calculate:		SECOND SE		Man !
		4. The thermometer scale starts from	°C to	°C.
	[B]	If the mass of a body equals 30 kg	g on the Earth surfa	ce. Calculate :
	-			
2. Its weight on the Earth :		2. Its weight on the Earth:		
3. Its weight on the moon.		3. Its weight on the moon.		

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[C] Compare	between	the:	structure	of the	axial	skeleton	and th	e appendicula
skeleton	:							

Point of comparison	Axial skeleton	Appendicular skeleton
The officerture		***************************************
The structure		

4 Kalyoubia Gov	ernorate (The Educational C	Directorate
Answer the following qu	estions :		
[A] Choose the corr	ect answer :		
1000	se weight on the Earth surface is Ne		wton, so its weight
a. 10	$b, \frac{1}{2}$	c. 1	d. $\frac{1}{6}$
2. All the following	g are good conductors	of heat except	•
a. aluminium a	nd copper.	b. iron and alu	ıminium.
c. copper and	ron.	d. glass and w	ood.
3. Hydrogen pero	xide is used in prepar	ing gas.	
a. oxygen	b. hydrogen	c. nitrogen	d. carbon dioxide
4 is from	n the reflex action.		
a. Heartbeats			24

d. (a), (b) and (c) [B] Give reason for each of the following:

c. Blinking when something gets close to the eye

b. Eating on feeling hungry

1.	There is a constriction above the mercury bulb in the medical thermometer.
2.	It is necessary to eat healthy food that is rich in calcium and phosphorus.
_	
3.	It is necessary to leave spaces between the railway bars.
4.	The ribcage surrounds both the heart and the lungs.

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هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https://www.zakrooly.com 2 Part

1. The system responsit	ole for controlling all body sys	stems.	(
2. A colourless gas that	is the main component of all	protein		
compounds.			(
3. The area where bone:	s meet and allow the movem	ent.	(
4. The thermometer who	ose scale ranges from 35°C	to 42°C.	(
Mention one function f	or each of the following:			
1. Cerebellum : ·····				
3. The spring scale: ·····				
4. The ozone layer : ······				•••••
Drinking big quantities All the substances the	s of soft drinks. at man use are good conduc	tors of he	at.	
	at man use are good conduc	tors of he	at.	
3. All the substances that 4. Condensation of nitro	at man use are good conduc		at.	
3. All the substances that 4. Condensation of nitro	at man use are good conductions gen gas.		eat. Veight	
3. All the substances that 4. Condensation of nitro Compare between mas	at man use are good conductions gen gas.			
3. All the substances that 4. Condensation of nitro Compare between mass Points of comparison	at man use are good conductions gen gas.			
3. All the substances that 4. Condensation of nitro Compare between mass Points of comparison 1. Measuring unit:	at man use are good conductions gen gas.			
3. All the substances that 4. Condensation of nitro Compare between mas Points of comparison 1. Measuring unit : 2. Measuring device :	at man use are good conductions gen gas.			
3. All the substances that 4. Condensation of nitro Compare between mas Points of comparison 1. Measuring unit: 2. Measuring device: Put () or ():	gen gas. Mass			
3. All the substances that 4. Condensation of nitro Compare between mass Points of comparison 1. Measuring unit: 2. Measuring device: Put () or (): 1. The liquid used in the	gen gas. Mass medical thermometer is alco			
3. All the substances that 4. Condensation of nitro Compare between mas Points of comparison 1. Measuring unit: 2. Measuring device: Put () or ():	gen gas. Mass medical thermometer is alco			



هذا العمل حصرى على موقع ذاكرولى التعليمي ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com

[B] Look at the following figure, then answer: 1. Write what each label represents on the figure: 1. Write what each label represents on the figure: 2. Mention one use for the evolved gas.	3
5 Sharkia Governorate The Educational Director	rate
nswer the following questions :	
[A] Complete the following statements: 1. The number of cranial nerves is and the number of sis	spinal nerves
Oxygen is produced from process and carbon dioxide from	
object. 4. As the mass of the planet on which the body exits increases,	
of the planet increases and of the body increases. 5. The main center of the control in your body is and it a bony case called	is found inside
[B] Give reason for each of the following: 1. Leaving spaces between the railway bars.	
2. Ozone gas is very important in nature.	
[A] Write the scientific term of each of the following :	9711
 The main source of preparing nitrogen gas. 	()
Materials that don't let heat flow through.	()
3. What fixes muscles to bones.	()
4. The gas that turns limewater turbid.	()
5. The building unit of nervous system.	63



هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https://www.zakrooly.com

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o. The mass of the		after combination v	and the state of the state of the
/ The entert	l controle the beaut	coto	(
	controls the heartb		(
	called azote which r	DOMESTIC STREET	(
CONTRACTOR OF STREET,		qual to (6 Kg). Calc	ulate:
1. Its weight on the	surface of the Earth	1.	
2. Its weight on the	surface of the moon	n.	
Menofia Gove	rnorate 🗸	The Educational Dir	rectorate
r the following que	estions :		
Choose the corre			
	easured by	scale.	
a. sensitive	b. digital	c. two arm	d. spring
2. The liquid used	n the Celsius therm	ometer is	
a. hydrogen per	oxide.	b. alcohol.	
c. water.		d. mercury.	
3. Which of the foll	owing is faster in co	nducting heat?	
a. Glass.	b. Aluminium.	c. Copper.	d. Iron.
4. One of the slight	ly movable joints is	thejoint.	10
a. thigh	b. shoulder	c. wrist	d. knee
5 is used	to make the iron ha	ndle.	
a. Iron	b. Copper	c. Aluminium	d. Plastic
6. Carbon dioxide i to the	s produced when di	luted hydrochloric ad	cid is added
a. calcium carbo	nate.	b. calcium oxide). J
c. calcium hydroxide.		d. calcium chloride.	
What would happe	en in the following	cases ?	
1. The overuse of	soft drinks.		

e (calques)

هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com 2 Part

[A] Write the scientific term of each of the following statement	ts:
 The measurement unit of weight which is almost equal to 	
a mass 100 grams.	()
A flame used in cutting and welding metals.	()
The degree of hotness or coldness of a body.	()
 A gas contributes in composing proteins and living tissues. 	()
The phenomenon which leads to raise in the Earth's temper causes changes in the climate.	ature and ()
An organ connects the brain with the spinal cord and is resp involuntary processes.	onsible for
[B] An object's mass = 30 kg on the moon's surface. Calculate	
1. Its mass on the Earth.	
2. Its weight on the Earth's surface.	
3. Its weight on the moon's surface.	
o. its weight on the moon's surface.	
3 [A] Correct the underlined words :	
1. The internal substance of the spinal cord is the yellow matter	. ()
2. The liquid used in the medical thermometer is water.	()
3. Argon is used in extinguishing of fires.	()
4. The centers of thinking and memory are located	
in the medulla oblongata.	()
5. Hydrogen peroxide dissociates in the presence	
of manganese dioxide and produces helium gas and water.	()
6. The Earth gravitational force increases as the body moves	3/10/
away from the Earth.	()
[B] 1. What is the name of the opposite figure ?	
2. Write down the labels on the figure. nucleus	
D	Y
3	
	THE PARTY OF THE P
66	

هذا العمل حصري على موقع ذاكرولي التعليمي ولا يسمح بنشره في أي مواقع أخرى

لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https://www.zakrooly.com

	Naterials are classified according to conducting heat into
	and ······
2. 1	Mercury remains liquid between two degrees of temperature which are
3. 0	Carbon dioxide gas is converted into a liquid by and and
	The number of cranial nerves is pairs, while the number of spinal nerves is pairs.
i	The rapid union between oxygen and elements produces heat and light, t is named, whereas if it is slow in the presence of moisture, it is named
	Thecontrols the reflexes, while the cerebellum is responsible for
[B] Wri	te the scientific reason of each of the following :
	The windows in the cold countries are made of two sheets of glass with space containing air in between.
2.1	Nitrogen is used in filling car tires.
7 GI	narbia Governorate The Educational Directorate
	narbia Governorate The Educational Directorate e following questions:
nswer the	
[A] Cor	e following questions :
[A] Cor 1. T	e following questions : mplete the following statements : The scale of medical thermometer starts from
[A] Cor 1. T	e following questions : Implete the following statements : The scale of medical thermometer starts from
[A] Cor 1. T 2. T 4. [e following questions: Implete the following statements: The scale of medical thermometer starts from
[A] Con 1. T 2. T 4. E 5. F	e following questions: Inplete the following statements: The scale of medical thermometer starts from



هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https://www.zakrooly.com 2 Part

Part			
[B]	Give reasons for each of the	e following :	
	- 1906 21 6 61 VI W CV	teel are used in making cooking p	ots.
	2. Nitrogen is used to store p	etroleum and some flammable m	aterials.
	3. Increased ratio of carbon of	dioxide gas in the atmosphere in i	recent years.
[A] Write the scientific term :	b.	
	 A gas exists in the atmosp coming from the Sun. 	here that protects Earth from har	mful radiation
	2. An instrument used for me	easuring the temperature of liquid	s. ()
	3. The skeleton which include	es the upper and lower limbs.	()
	 A form of energy transfers they differ in temperature. 		()
	A gas combines with oxyg temperature is sufficient to	en to produce a flame whose o melt metals.	()
[B	An object whose mass on I	Earth equals 30 kg. Calculate :	
	2. Its weight on the moon :		
[A	A] Choose the correct answer	r:	
	1. Addiction passively affects	the nervous system causing	
	a. muscle stress.	b. sprains.	. sleepless.
	2. The gas which is used in	making dry ice is gas.	100
	a. carbon dioxide	b. oxygen	. nitrogen
		a balloon at certain height from Ea weight of the person on Earth's su	The second secon
	a. 69 Newton.	b. 70 Newton.	. 71 Newton.
	All of the following are pro- except	perties of mercury as a thermome	etical substance
	 a. good conductor of heat 		
	 b. give limited extent to m 	easure temperature.	

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c. not adhere to the walls of capillary tube.

- Magnesium ribbon keeps burning inside a cylinder full of carbon dioxide gas forming
 - a. magnesium oxide and coal. b. magnesium oxide and oxygen.
 - c. magnesium oxide and carbon dioxide.

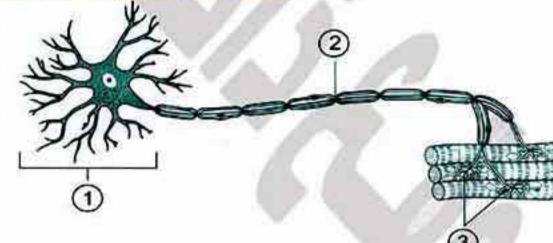
[B] What would happen in the following cases?

- The mercury bulb of medical thermometer is broken and mercury is spilled inside the mouth of the person using it.
- 2. The hand suddenly touches a hot object.
- 3. Not leaving spaces between railway bars.

[A] Correct the underlined words in the following:

[B] Look at the opposite figure, then label the numbers.

- ③





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Answer the following questions:

- [A] Complete the following statements :
 - 1. The device which is used to measure the temperature is
 - 2. The central nervous system is composed of and and

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هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره فى أى مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com 2 Part

	 Preparation of oxygen in the laboratory from with manganese dioxide. 				
4. A body ma	ass on the Earth's surf	face is 5 kg., the san	ne body mass on the		
The state of the s	avoid jumping from hig y system.	gh places to avoid	in our		
[B] Mention one	function or importa	nce of each of the	following:		
1. Celsius th	I feel feel				
2. Dry ice.					
3. Hot coppe	er in nitrogen preparat	ion experiment.	***************************************		
[A] Write the so	ientific term of each	of the following:			
1. The amou	int of matter that the b	ody contains.	()		
Types of r movemen	nuscles that work auto	omatically and we ca	n't control there		
3. A gas use	d in making soft drink	s.	()		
4. A part of b	orain which regulates t ly.	he involuntary proce	esses ()		
A gas process.	duced from green plar	nts during photosyntl	hesis ()		
[B] Give reason	s for each of the foll	owing:			
17 17 cc 100 cc 100 cc	n is used in making co	and the same of th			
2. Presence	of cartilages between	the vertebrae of the	backbone.		
3. Nitrogen i	s recently used in fillin	ng car tiers.			
[A] Choose the	correct answer:	Fig. 1	α - '_ '-		
From the a. plastic.	materials which are go b. air.	od conductors of hea	d. mercury.		

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	Put (x) or (√) in front of the each of the seach of the	he following statements: body is attracted to the Earth. e oxygen atom linked with s from 32°C to 45°C. atoms. ich equal one litter re from parts of lower limbs.)
	 The weight is the force with which a to 2. Carbon dioxide molecule consists of one two carbon atoms. The medical thermometer scale start 4. Ozone gas consists of three oxygen 5. One kilogram equals 1000 grams who of distillated water. Humerus bone and forearm bones are 	he following statements: body is attracted to the Earth. e oxygen atom linked with s from 32°C to 45°C. atoms. ich equal one litter re from parts of lower limbs.)
	 The weight is the force with which a to 2. Carbon dioxide molecule consists of one two carbon atoms. The medical thermometer scale start 4. Ozone gas consists of three oxygen 5. One kilogram equals 1000 grams who of distillated water. Humerus bone and forearm bones are 	he following statements: body is attracted to the Earth. e oxygen atom linked with s from 32°C to 45°C. atoms. ich equal one litter re from parts of lower limbs.)
[A	 The weight is the force with which a to 2. Carbon dioxide molecule consists of one two carbon atoms. The medical thermometer scale start 4. Ozone gas consists of three oxygen 5. One kilogram equals 1000 grams who of distillated water. 	he following statements: body is attracted to the Earth. e oxygen atom linked with s from 32°C to 45°C. atoms. ich equal one litter)
[A	 The weight is the force with which a to 2. Carbon dioxide molecule consists of one two carbon atoms. The medical thermometer scale start 4. Ozone gas consists of three oxygen 5. One kilogram equals 1000 grams which is the force with which a to 2. 	ne following statements: body is attracted to the Earth. e oxygen atom linked with s from 32°C to 45°C. atoms.	()
[A	 The weight is the force with which a land Carbon dioxide molecule consists of one two carbon atoms. The medical thermometer scale start 	ne following statements: body is attracted to the Earth. e oxygen atom linked with s from 32°C to 45°C.	()
[A	The weight is the force with which a language of the consists of one two carbon atoms.	ne following statements : body is attracted to the Earth. e oxygen atom linked with)
[A	The weight is the force with which a language of the consists of one two carbon atoms.	ne following statements : body is attracted to the Earth. e oxygen atom linked with)
[A	1. The weight is the force with which a b	ne following statements : body is attracted to the Earth.	<u></u>)
[A		ne following statements :		
			••••••	
	3. All human bones are fixed with each	other		
	The constriction is not found in the construction is not found in the construction.	apillary tube of the medical		
	The reaction between nitrogen with o	oxygen by lightening.		
[B	What would happen in the following			
	c. calcium hydroxide.	d. carbon.		
	a. calcium oxide.	b. calcium carbonate.		
	5. Carbon dioxide turbids the clear lime	- Control of the cont		
0	4. If an object's weight on the Earth's someon's surface will be a. 6 Newton. b. 60 Newton.	urface is (6) Newton, its weight c. $\frac{1}{6}$ Newton. d. 1 Newton.		ie
	a. scarcely b. rapidly	c. non d. (a), (b)	0.000	
	3. From the properties of oxygen, it is ····	the way of the	. 72	ZK IIDS
	c. medulla oblongata.	d. spinal cord.		
	a. cerebrum.	b. cerebellum.		



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- during movement.
- 3. The cooking pots and kettles are made up of plastic.



هذا العمل حصري على موقع ذاكرولي التعليمي ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com

expanding material.	egular	(110
Mass is the force of Earth's gravity to a body.		i	- 0
6. Bones of the lower limbs are connected to the sho	oulder bones.	i	37
B] What happens when ?		(6)	14
Putting a glowing magnesium ribbon in a jar conta	aining carbon o	lioxide.	
Your hand suddenly touches a hot body.			

[A] Write the scientific term of each of the following	:		
 A type of muscles that work automatically and you 	1		
cannot control.	()
Materials that do not let heat flow through.	(·····)
A flame used in cutting and welding metals.	()
4. The main control center in the human body.	(
B] What is the role of each of the following :			
Yeast in making bread.			
2. The ozone layer in the atmosphere.	/ 4"		
C] Look at the opposite figure, then answer :		200	
1. What is the name of this figure ?			
2. Write what is indicated by numbers :		9 40 (L	Ī
①	3 1		(2)
②			
③			

المحاصر علوم لنات (Step by Step & Final Exams) / ٦ ب/ تيرم ١ (م : ١٠)

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3. Heat is a form of that transfers from the temperature

object to the low temperature object.

الصف السادس الابتدائي

The state of the state of	ect answer from the		92
1. The gas which	is used with acetyler	e in welding meta	ls is gas.
a. oxygen	b. nitrogen	c. hydrogen	d. carbon dioxi
THE RESERVE AND ADDRESS OF THE PARTY OF THE	ne body on Earth's s equals	urface is 6 Newton	, so its weight on
a. 1 kg.	b. 1 Newton	c. 6 kg.	d. 6 Newton
3. The thoracic ca	ge in the man consis	sts of pair	s of ribs.
a. 10	b. 11	c. 12	d. 13
4. The part which	is responsible for ke	eping human body	balance is
a. two cerebral	man and a second design of the second	b. cerebellum.	
c. medulla oblo	ngata.	d. spinal cord.	
Hydrogen pero	xide decomposes in	presence of mang	anese dioxide
to			
a. oxygen and	hydrogen.	b. oxygen and	water.
c. hydrogen an	d water.	d. hydrogen ar	nd manganese.
6. Oxygen is pres	ent in the atmospher	e in gas state in fo	orm of molecules it
a. O	b. O ₂	c. O ₃	d. O ₄
] A body its mass	is 10 kg. Calculate i	ts weight of an e	
		A	

I I oak at the same	olto flavoro than an	O	
To 100 100 100 100 100 100 100 100 100 10	site figure, then an	swer:	
 Write the name 	or ligure.		3 H H H H 4 U U
		(2)	
2. Label the figure):		
①			
②		om.	
3			



موقع ذاكروني التعليمي

الصف السادس الابتدائي

2. Weight	on Moon's surface.		
[C] Explain e	ach of the followin	g:	
TO THE STATE OF TH	nt odour evolves as a magnesium in nitro	a result of adding water gen.	to the product of
2. There	are cartilages between	en vertebrae of the back	bone.
[A] Choose t	he correct answer	9	
1. Nitroge	n is used in making		
a. dry i	ce. b.1	fertilizers. c. sc	oft drinks.
	of Earth's gravitation	arth's surface because all force as we go away to c. in	
3. The mu		are voluntary muscles, urinary bladder	
	3 33	rbon dioxide is being lighter than air. c. so	arcely soluble in water
[B] Compare	between cranial ne	erves and spinal nerve	s, in terms of :
Poin	ts of comparison	Cranial nerves	Spinal nerves
	e place where they erge from :		
7500 1000 NO.	eir numbers :		
2. Th			



the weight is	
Correct the following statemen	ts:
1. The skull joints are from slight	AT NOT TO THE PERSON OF THE POST OF THE PO
The second secon	n Earth's surface equals 6 kilogram, so
weight on moon's surface is 6	o newton.
3. Aluminium conducts heat faste	er than conner and iron
5. Aluminum conducts near laste	
The atmosphere protects the I outer space.	Earth by absorbing the gases coming fro
Choose the correct answer :	
1. From bad conductors of heat a	are
a. iron and aluminium	b. copper and glass
c. glass and wood	d. aluminium and copper
2. The scientist who discovers the	e nitrogen gas is
a. Anders Celsius	b. Joseph priestley
c. Daniel Rutherford	d. Antoine Lavoisier
3. All the following from the comp	conents of central nervous system
except	
a. spinal nerves.	b. two cerebral hemispheres.
c. spinal cord.	d. medulla oblongata.
When the exhaled air passes the formation of	through clear limewater it turbids due to
 a. calcium carbonate. 	b. calcium oxide.
c. calcium hydroxide.	d. calcium sulphate.
5. The measuring device of the v	veight is
a. sensitive scale	b. two arms scale
c. the spring scale	d. digital scale
6 fix muscles with bone	es.
- 20 5 1 1 2 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1	b. Joints
a. Tendons	The state of the s



The over use of stimulation substances.	
2. The percentage of carbon dioxide gas increases in the atr	nospheric air.
3 [A] Write the scientific term of the following statements :	
1. The amount of matter that the body contains.	(
2. Spontaneous response of the body to different stimuli.	(
3. A gas that is prepared from hydrogen peroxide.	(
4. Type of muscles act spontaneously and cannot be control	led. (
It is the degree of hotness or coldness of a body.	(
6. A flame used in cutting and welding metals.	(
[B] Look at the opposite figure, then answer the questions: 1. This figure indicates the structure of	
2. Label the points as indicated by the figures:	
①	
②	
③	
4 [A] Give reasons for the following statements :	Mila
The handles of cooking pots are made of wood or plastic, very pots are made of aluminium.	while the cooking
 During preparation of nitrogen gas in laboratory, air is pass hydroxide solution and over a hot copper. 	sed in potassiur





[B] Mention one function of :1. The constriction above the bulb	in the medical thermo	ometer.
2. The two cerebral hemispheres.		
3 Kafr El-Sheikh Governorate	The Educational	Directorate
swer the following questions :		
[A] Write a scientific term :		
Gas increase in its percentage in organisms.	n air leads to the suff	ocation of living
2. The amount of matter in an obje	ect.	(
3. It consists of the bones of upper	and lower limbs.	<u> </u>
4. It is the degree of hotness or col		(
[B] Look at the following figures, the	en answer the follow	ing guestions :
1. Figure (a) represents the	Annual Control of the	
which is used to measure		
2. Figure b represents the	(a)—	
which its function is		
[C] Mention :		
The importance of manganese of manganese of the importance of manganese of the importance of the	dioxide in the prepara	tion of oxygen.
2. The function of the cerebellum.		
[A] Choose the correct answer :		
1. Limewater is		
a. calcium carbonate.	b. calcium ox d. calcium su	
 c. calcium hydroxide. 		The second of





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Muscles prevent the friction between vertebrae of	
backbone during movement.	()

Carbon dioxide is prepared in the laboratory from the reaction
 between hydrochloric acid and copper sulphate.

4 [A] Select in column (B) the appropriate in column (A):

(A)	(B)
1. Potassium hydroxide solution	a. 12 pairs of nerves.
2. Nitrogen gas	b. It is used to absorb carbon dioxide when preparing nitrogen in the laboratory from the air.
3. Cranial nerves	c. It is used in filling car tires.
	d. Regulating heartbeats

[B] Put (√) in front of the correct statements and (x) in front of the false ones :

- Oxy-acetylene flame is used in cutting and welding metals.
- The medulla oblongata delivers nerve messages from the body organs to the brain and vice versa.
- 3. The mass of materials decreases after combination with oxygen. ()

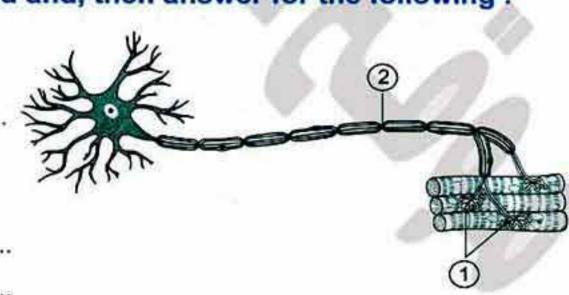
[C] Look at the figure in front of you and, then answer for the following :

What the name of the opposite figure?

Write the name of labels ① and ②

①

2





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2.	The constriction in	the capillary tube	in the clinical thermometer.
1			
Ch	oose the correct	answer:	
			s placed in a jar containing carbo ement formed is
3	a. magnesium.	b. carbon.	c. nitrogen.
2.	Myelin sheath sur	rounds the ······	9.9.6
3	a. nerve cell axon	. b. cerebellum.	c. spinal cord.
3.	Which of the follow	wing is faster in co	nducting heat ?
8	a. Aluminium.	b. Iron.	c. Copper.
	Which of the follov air ?	ving gasses have g	reat percentage in atmospheric
13	a. Oxygen.	b. Nitrogen.	c. Carbon dioxide.
5.	The Newton is ne	arly equals weight	of a body its mass gm.
	a. 10	b. 100	c. 1000
Giv	e reasons for ea	ch the following	statements :
1.	Nitrogen is used i	n filling car tires.	
2.	The necessary of	eating healthy foo	d rich in calcium.
3.	Clear limewater b	ecomes turbid who	en carbon dioxide passes in it.
	P.53 - P.7050 SEED FEED		ollowing cases ?
1.	Adding the yeast	to dough on makin	g bread.
2	Nitrogen is not pr	esent in the atmos	pheric air.





2 [A] C	noose the corre	ect answer:		
1.	Which of the fol	llowing is faster in	conducting heat?	
	a. Iron.	b. Copper.	c. Aluminium.	d. Wood.
2.	Which of the fol	llowing joints is limi	ited movement?	
	a. Shoulder.	b. Wrist.	c. Elbow.	d. Thigh.
3.		ht on earth's surfa equals	ce equals 6 Newtor	n, its weight on
4	a. 1 kgm.	b. 1 Newton.	c. 6 kgm.	d. 6 Newton.
4.	Which of the fol air ?	lowing gases has g	reat percentage in a	atmospheric
	a. Oxygen.	b. Nitrogen.	c. Ozone.	d. Carbon dioxide.
5.	Which of the foll	lowing is responsibl	le for keeping the bo	dy balance ?
	a. Medulla oblo	ngata.	b. Two cerebral	hemispheres.
	c. Spinal cord.		d. Cerebellum.	
[B] W	hat would happ	en in the followin	g cases ?	
2.	The over take o	of stimulating subst	ances.	
3 [A] Co	orrect the unde	rlined words :		9
1.	The weight is o		not change from on	e ()
2.	The axon of the	nerve cell is surrou	unded by gelatinous	s layer. ()
3.	The liquid used	in the thermometer	er is the alcohol.	()
4.	50	prepared from hydi f carbon dioxide g	rogen peroxide diss gas.	ociates in
5.	From the brain	(10) pairs of crania	al nerves come out.	()
[B] Gi	ve reasons for	the following:		
1.	Nitrogen is colle preparation in t	7.5	cement of water do	wnward during its
2.	In the clinical th	ermometer there is	s a constriction abo	ve mercury reservoir.
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موقع ذاكروني التعليمي

الصف السادس الابتدائي

[A] Choos	e the correct a	nswer:		
1. From	n the substance	es which are bad o	conductors of heat	
a. ir	on.	b. aluminium.	c. air.	d. copper.
2. If the	e body weight is	40 Newton, so it	s mass equals	
a. 4	kg.	b. 400 kg.	c. 40 kg.	d. 4000 kg.
3. Join	ts which allow r	novements in one	direction only are	joints.
a. s	lightly movable	b. immovable	c. freely movabl	е
4. Mer	cury remains liq	uid between two d	egree temperature	•°C
a. –	39:357	b. 39: -357	c. zero: 100	
[B] Write t	he scientific te	rm of each of the	e following state	ments :
1. Auto	omatic response	of the body to di	fferent stimuli.	()
2. Long	g strips in the m	uscles fix it into b	ones.	()
3. Liqu	id used in maki	ng thermometers.		()
4. The	force with whic	h a body is attract	ted to the Earth ar	nd it always
towa	ards the center	of the Earth.		()
① ·· ② ·· ③ ··		umber. ② is		3

[B	What are	the differences	between	oxidation an	a burning ?	
	-					

Points of Comparison	Oxidation	Burning
1. Definition :		

2. Example :		



المحاصد علوم لغات (Step by Step & Final Exams) / ٦ ب/ تيرم ١ (م: ١٢)

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Part

17 El-Minia Governorate

The Educational Directorate

swer the following questions :	
Complete the following stateme	nts:
	, while the measurement unit of weight
is	
Nitrogen represents, w of the atmosphere.	hile oxygen represents of the volume
3. The number of spinal nerves is	***************************************
4. A weight of an object can be me	easured by the
5. Oxygen is prepared from	in presence of
Write the scientific term of each	of the following statements :
1. The location of bones touch and	d allow moving. (
2. Gas is produced according to the	ne availability of green plants. (
3. A tool used to measure the tem	perature of the human body. (
4. The amount of matter in an object	ect. (
[A] What happens when ?	
ALE PER CONTRACTOR OF THE PER CONTRACTOR OF	ribbon in cylinder filled with nitrogen gas.
GR (40050) (8 May 1750) 12	
When carbon dioxide gas is	s passed in limewater.
When carbon dioxide gas is	s passed in limewater.
2. When carbon dioxide gas is	s passed in limewater.
2. When carbon dioxide gas is [B] Give reasons for each of the	
[B] Give reasons for each of the	
[B] Give reasons for each of the 1. Cooking pots are made of a	following:
[B] Give reasons for each of the 1. Cooking pots are made of a	following:
[B] Give reasons for each of the 1. Cooking pots are made of a	following: aluminium, while its handles are made of plas
[B] Give reasons for each of the 1. Cooking pots are made of a or wood.	following: aluminium, while its handles are made of plas
[B] Give reasons for each of the 1. Cooking pots are made of a or wood. 2. Ozone gas is very important	following: aluminium, while its handles are made of plas
[B] Give reasons for each of the 1. Cooking pots are made of a or wood.	following: aluminium, while its handles are made of plas



4 [A] Notice the followin down the labels on	The state of the s	©	(
1. Gas (a) is			
2. Substance (b) is ·		········	#
3. Liquid ⓒ is			
[B] If an object's mass	= 30 kg. on Earth. Calc	ulate:	
1. Its weight on the E	arth.		
2. Its weight on the N	loon.		
[C] Put (√) or (×) in fr	ont of the following sta	itements :	
1. Heat transfers fro	m a cold object to a hot o	object.	(
Nitrogen is used t	o make stainless steel.		(
3. Mercury is good of	onductor of heat.		(
Inswer the following ques Complete the following 1. The weight is measure		the mass is measured	
in unit.			
welding metals.	n composing gunpowder	, while gas is us	ed in
3. The main center of the a bony case called	e control in your body is	and it is found ir	ıside
4. The heat is a form of	the forms of		
5. The number of crania	l nerves in human body i	s pairs of nerve	s. /
[A] Choose the correct	answer:		
1. The planet on whoon is	ich the body weight equa	ils 6 times as its weight o	n the
a. Earth.	b. Mars.	c. Jupiter.	
			91



2. From the	b. iron.	c. wood.
a. glass.		o. wood.
	e cell body consists of	
a. nucleu	767 DATE OF	d plasma membrane.
c. all the		
1997 (Shings)	be prepared by using calcium or oric acid is	carbonate powder and dilute
a. oxyger	b. hydrogen.	c. carbon dioxide.
5. The weig equals ···	ht of a body its mass 10 kg. on E	Earth surface nearly
a. 10 Nev	wton. b. 100 Newton.	c. 1000 Newton.
6. Oxygen g	as represents percentage	of the Earth atmosphere.
a. 21%	b. 78%	c. 89%
B] Mention on	e function of the following :	
1. The joints		
2. The ozon	e layer.	The state of the s
2. The ozon A] Write the s 1. A gas is a 2. Ligament 3. The amo 4. A tool use	cientific term of the following used in manufacture of soft drink ts ties muscles with bones. unt of matter that the body contacted in measuring the temperature of	ains. (
2. The ozon A] Write the s 1. A gas is a 2. Ligament 3. The amo 4. A tool use	cientific term of the following used in manufacture of soft drink is ties muscles with bones. unt of matter that the body contained in measuring the temperature of column (A) what is suitable fro	ains. (
2. The ozon [A] Write the s 1. A gas is it 2. Ligament 3. The amo 4. A tool use [B] Join from c	cientific term of the following used in manufacture of soft drink is ties muscles with bones. unt of matter that the body contained in measuring the temperature of column (A) what is suitable fro	ains. (
2. The ozon A] Write the s 1. A gas is t 2. Ligament 3. The amo 4. A tool use (A)	cientific term of the following used in manufacture of soft drink is ties muscles with bones. unt of matter that the body contained in measuring the temperature of column (A) what is suitable from a. is a bad conductor of heat. b. conducts heat faster than all	ains. (
2. The ozon A] Write the s 1. A gas is is 2. Ligament 3. The amo 4. A tool use (A) 1. Copper 2. Plastic 3. Mercury	cientific term of the following used in manufacture of soft drink is ties muscles with bones. unt of matter that the body contained in measuring the temperature of column (A) what is suitable from a. is a bad conductor of heat. b. conducts heat faster than all c. is a liquid used in sterilizing of	cins. (
2. The ozon [A] Write the s 1. A gas is it 2. Ligament 3. The amo 4. A tool use (A) 1. Copper 2. Plastic	cientific term of the following used in manufacture of soft drink is ties muscles with bones. unt of matter that the body contained in measuring the temperature of column (A) what is suitable from a. is a bad conductor of heat. b. conducts heat faster than all c. is a liquid used in sterilizing d. is used in manufacture of fer	cins. (
2. The ozon A] Write the s 1. A gas is is 2. Ligament 3. The amo 4. A tool use (A) 1. Copper 2. Plastic 3. Mercury	cientific term of the following used in manufacture of soft drink is ties muscles with bones. unt of matter that the body contained in measuring the temperature of column (A) what is suitable from a. is a bad conductor of heat. b. conducts heat faster than all c. is a liquid used in sterilizing of	cins. (



the labels on the	nd write down figure :		
①			
②			Ó
Give reasons for	the following:		
	s (pots) are made of	aluminium.	
2. Nitrogen gas is	used in filling cars a	nd aerplanes tires.	
What would happ	en in the following	cases ?	
1. A nail from iron	wetted with water is	exposed several da	ays to humid a
medical thermo	onstriction above me meter.		

Sohag Gove	rnorate (19	The Educational I	Directorate
Sohag Gove	rnorate	The Educational I	Directorate
er the following qu	estions :	The Educational 1	Directorate
cr the following que	ect answer :		
cr the following quantities the correct of the following quantities of the correct of the following quantities the following quantities of the	restions : ect answer : llowing is from the sli	ightly movable joint	s ? jo
Choose the correct of the formula a. Elbow	restions : ect answer : llowing is from the sli	ightly movable joint c. Wrist	s ?jo d. Shoulder
Choose the correct of the following quantum of	restions : ect answer : llowing is from the sli	ightly movable joint c. Wrist	s ?jo d. Shoulder
Choose the correct of the following quantum of	restions: ct answer: llowing is from the sli b. Thigh t's mass on the moon	ightly movable joint c. Wrist	s ?jo d. Shoulder
Choose the correct of the following quantities of the following quantities of the following a. Elbow 2. When an object Earth should educate a. 50 3. When a lighted	restions: ct answer: llowing is from the sli b. Thigh t's mass on the moor	ightly movable joint c. Wrist n equals 50 kg. the c. 200 s placed in a jar co	s ?jo d. Shoulder n its mass on t d. 500 ntaining carbo
Choose the correct of the following quantities of the following quantities of the following a. Elbow 2. When an object Earth should educate a. 50 3. When a lighted	restions: ct answer: llowing is from the sli b. Thigh t's mass on the moor qualkg. b. 100 magnesium ribbon is	ightly movable joint c. Wrist n equals 50 kg. the c. 200 s placed in a jar con nt formed is	s ?jo d. Shoulder n its mass on t d. 500 ntaining carbo
Choose the correct. 1. Which of the form. 2. When an object Earth should educated dioxide, on the a. oxygen.	restions: ct answer: llowing is from the sli b. Thigh t's mass on the moor qualkg. b. 100 magnesium ribbon is wall of jar the eleme	ightly movable joint c. Wrist n equals 50 kg. the c. 200 s placed in a jar count formed is c. carbon.	s ?
Choose the correct. 1. Which of the form. 2. When an object Earth should educated dioxide, on the a. oxygen.	restions: ct answer: llowing is from the sli b. Thigh t's mass on the moor qualkg. b. 100 magnesium ribbon is wall of jar the eleme b. nitrogen.	ightly movable joint c. Wrist n equals 50 kg. the c. 200 s placed in a jar count formed is c. carbon.	s ?
Choose the correct. 1. Which of the form. 2. When an object Earth should educated a. 50 3. When a lighted dioxide, on the a. oxygen. 4. All of the following quarters.	restions: ct answer: llowing is from the sli b. Thigh t's mass on the moor qual	ightly movable joint c. Wrist n equals 50 kg. the c. 200 s placed in a jar con nt formed is c. carbon. t conduct heat exce c. aluminium.	s?jo d. Shoulder n its mass on to d. 500 ntaining carbo d. magnesi



2 Part

[B] Wh	at would	happen	in the	following	cases	?
--------	----------	--------	--------	-----------	-------	---

- 1. A nail wetted with water is exposed for a long period to humid air.
- The over intake of stimulating substances such as coffee and tea.
- There is no constriction above the bulb of mercury in the medical thermometer.

[2] [A] Write the scientific term of each of the following statements:

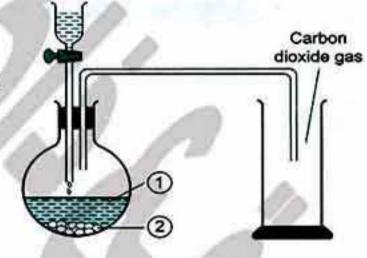
- 5. A gas used in the storage of petroleum and some inflammable substances.

[B] Look at the opposite figure,

then answer the questions:

- 1. Write what each number refers to on the figure :
- 2. How the gas is collected ? And why ?

......



[3] [A] Complete the following statements:

- It's necessary to eat healthy food rich in calcium and phosphorus to prevent diseases.
- is the gas which is called azote that means "lifeless" because it does not help in burning.
- 3. The number of the spinal nerves is, where as the number of the cranial nerves is
- 4. The medical thermometer is used to, where as the celsius thermometer is used to

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1000	object whose mass on Earth is equal 12 kg. Calculate:
7 4 .	Its weight on the surface of the Earth.
2.	Its weight on the surface of the moon.
[A] G	ive reasons for the following :
1.	The heart and lungs are surrounded by ribcage.
2.	Ozone layer has a great importance in the life of creatures on the Earth surface
3.	The weight of the body on Earth's surface differs from its weight on another planet.
4.	Air is used in making insulating glass windows.
[B] Co	orrect the underlined words :
1.	An example for the involuntary muscles is the face muscles. (
	In respiration and combustion, carbon dioxide is consumed. (
	Iron is considered the fastest metal in conducting heat.
	The centers of thinking and concentration lie in
	medulla oblongata.
0	Qena Governorate The Educational Directorate
O wer t	
	Qena Governorate The Educational Directorate
[A] C	Qena Governorate The Educational Directorate he following questions:
[A] Co 1.	Qena Governorate The Educational Directorate the following questions: complete the following statements:
[A] Co 1. 2.	Qena Governorate The Educational Directorate the following questions: complete the following statements: Oxygen gas is prepared from
[A] Co 1. 2. 3.	Qena Governorate The Educational Directorate the following questions: complete the following statements: Oxygen gas is prepared from in presence of
[A] Co 1. 2. 3. 4.	Qena Governorate The Educational Directorate the following questions: Oxygen gas is prepared from in presence of in presence of in presence of in presence of in the following is a constant amount and doesn't affect by changing in the following is used to measure the temperature of water. The nervous system consists of two main systems which are in the following in the following statements:
[A] Co 1. 2. 3. 4.	Qena Governorate The Educational Directorate the following questions: Complete the following statements: Oxygen gas is prepared from in presence of Mass is a constant amount and doesn't affect by changing thermometer is used to measure the temperature of water. The nervous system consists of two main systems which are and mand mand mand mand mand mand mand



Part					
2 [A]	Put (V) or (x) in from	nt of the following states	ments:		
		of two oxygen atoms and		()
	THE STATE OF THE PARTY OF THE P	is used in the manufactur		()
	the second secon	I thermometer starts from	tions and the state of the stat	()
	4. Nitrogen gas occupi	es 78% of the atmospher	ic air components.	()
- 4		ular bacteria fix nitrogen o		()
[B]	Give reasons for :	P			
90		on above the mercury bul	b in the medical thern	nome	ler.
	2. Carbon dioxide gas	is used in extinguishing f	ires.		
	3. Damage of medulla	oblongata leads to death	•		
3 [A]	Choose the correct a				
	10 00 000	onduct heat is	o iron		
	a. aluminium.	b. copper.	c. iron.	me	
	1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	weight of an object whose b. 100	c. 1000	1115.	
	a. 10	uman body consists of			
		b. 11 pairs	c. 12 pairs		
	a. 10 pairs	me types of lamps is			
	CO. SUPPLY STATE OF THE STATE O	b. carbon dioxide.	c. nitrogen.		
	a. oxygen.	to measure the weight is			
	a. spring scale.	b. digital scale.	c. two arm scales	9	
rm.	100				
[B]	No. of the Contract of the Con	30 kg. on the Earth. Ca	iculate:		
	1. Its mass on the mod	on.			
	2. Its weight on the Ea	irth.		3	
	3. Its weight on the mo	oon.			

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4 [A] Write the scientific term of the following statements :	
1. An organ which is responsible for the reflex action.	()
2. A form of energy that transfers from the higher temperature	
object to the lower temperature object.	()
3. The gas that turbids limewater.	()
4. Materials that let heat flow through.	()
5. The amount of matter in an object.	()
[B] Look at the opposite figure, then write what the	
numbers point to :	
①	①+(\)
②	
3	② — ()
	3 A
21 Luxor Governorate The Educational Direct	ctorate
Inswer the following questions :	
Complete the following statements :	
The graduation of clinical thermometer begins from°C a°C.	and ends at
consists of 33 vertebrae, with between them to friction during movement.	prevent their
3. As the mass of the planet increases, its increases and t	he object's
4. The main center of the control in your body is and it is for	ound inside
a bony box called	
2 [A] Write the scientific term of each of the following:	
Types of muscles act spontaneously and cannot	
be controlled.	()
A gas is used in making of stainless steel.	()
Part of the nervous system that is responsible for	
reflex actions.	()
A gas its molecule consists of three oxygen atoms.	()
رم ننات (Step by Step & Final Exams) / ٦ ب/ تيرم ١ (م : ١٣)	97 المحاصد علو



2 Part

li	ine type of skeleton wr imbs.	nich includes the bones o	f upper and the lower)
6. T	he liquid that is used i	n making of the Celsius t	hermometer. ()
[B] Give	e a reason for each o	f the following:			
	Oxygen gas is collected preparation in the labor	d by displacing the water atory.	downwards during		*****
2. [Damage of the medulla	oblongata causes death	•	•••••	
[A] Put	(\checkmark) or (x) in front o	f the following stateme	nts :		
1. N	Mass is the force of the	Earth's gravity on an ob	ject.	()
2. F	Handles of cooking pot	s are made of wood.		()
3. 1	Nitrogen gas reacts eas	sily with most other elem-	ents.	()
4. 0	Oxygen gas does not b	urn and it does not help	in burning.	()
[B] Cho	ose the correct answ	ver from the following:			ē
1. 0	One of the examples of	heat conductors is			
a	a. plastic.	b. paper.	c. iron.		
2. 1	The joint which allows t	he movement in one dire	ection only is	joir	nt.
8	a. immovable	b. slightly movable	c. freely movable		
3.1	Nitrogen is used in mar	nufacturing of		6	
8	a. fertilizers.	b. soft drinks.	c. dry ice.		
4. H	Hydrogen peroxide is u	sed in the preparation of		-	
· a	a. oxygen.	b. nitrogen.	c. carbon dioxide.		



	LOOK at the followin	The same of the sa		
	1. This apparatus is i	CHECK POWER OF A POST OF A PARTY		3
			عالالد	2 1/6
5	2. Write what represe	ents each label on t	he	
	figure :			
	①			
- A.V	②			
4	③	A		
22	Aswan Govern		e Educational Direc	ctorate
	the following ques			
	Complete the follow	- AND - AND -		
			from ·············°C to ···	
8	2. In photosynthesisgas.	process, the plant a	bsorbsgas a	nd produce
l:	3. From the example	s of substances wh	ich are bad conductors	s of heat
	and	and (
93	The axial skeleton	in the man consists	s of, ,	and
0	5. Mass is a constan	t and is not affected	l by	
[B] (Sive one importanc	e for the following		
	1. Oxy-acetelyne flar	me.		
	2. Cartilage.			

2 [A]	Choose the correct	answer from the f	ollowing:	3/69
	Your weight on Ea surface is	AND THE STATE OF THE PROPERTY OF THE PARTY O	lewton, so your weight	on moon
	a. 6	b. 60	c. 100	d. 10
			placed in a jar contair ement formed is	
	a. carbon.	b. nitrogen.	c. magnesium.	d. oxygen.
	3. Which of the follow	100 m	ducting heat ?	
,	a. Aluminium.	b. Copper.	c. Iron.	d. Glass.
				99

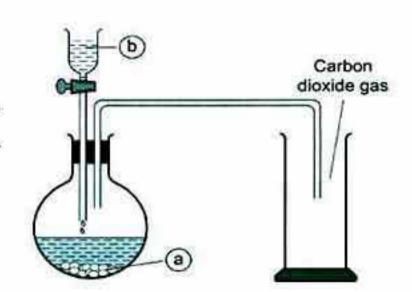




[B]	Look at	the oppos	ite figure,	then	answer	:
-----	---------	-----------	-------------	------	--------	---

- 1. Write what represents each label on figure :
 - Substance a is
 - _ Liquid (b) is
- 2. Mention one use of the carbon dioxide gas :

***************************************	 	 	•••••
	100		



23 New Valley Governorate

The Educational Directorate

Answer the following questions:

- [A] Complete the following sentences :
 - 1. Weight is the force by which to the Earth.
 - 2. is produced from plants during the photosynthesis process.
 - 3. thermometer is used for measuring the temperature of water.
 - 4. is used for manufacturing of soil fertilizers.

[B] Mention the importance of each of the following:

- Oxy-acetylene flame.
- Spring scale.
- 3. Hot copper in preparing nitrogen from air.
- 4. Ozone layer.

[A] Choose the correct answer:

- 1. It is not from the upper limbs
 - a. humerus.
- b. forearm.

- c. shaft.
- When a mass of cleaning wire, which is made of iron gets burned in air with oxygen, its mass
 - a. increases.
- b. decreases.

c. doesn't change.

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Comparison	Voluntary muscles	Involuntary muscles
Definition :		
Example :		

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 Its mass on the Earth 	¥		
2. Its weight on the moo	n.		
Look at the medical the		t of you, ther	answer:
Write what do numbe	rs refer to :		55 Sc 37 38 39 80 83 43 42
①		2	3
②			
③			
2. Complete :			
1. It is used in			
The beginning of it	s scale is	°C and end at	:°C
South Sinai Govern	orate III	Educational	Directorate
er the following question Complete the following 1. The clinical thermome	g statements :	om°	C to°C.
1. The clinical thermome 2. Hydrogen peroxide is 3. Nitrogen gas occupie 4	eter is graduated from used in preparations of atmost are from bad conditions.	n ofg ospheric air. luctors of hea	jas.
1. The clinical thermome 2. Hydrogen peroxide is 3. Nitrogen gas occupied 4	eter is graduated from used in preparations of atmost are from bad conditions.	n ofg ospheric air. luctors of hea	jas.
1. The clinical thermome 2. Hydrogen peroxide is 3. Nitrogen gas occupie 4	eter is graduated from used in preparations of atmosphere are from bad concluding: Is both the heart and	n ofgospheric air. luctors of hea	t.
1. The clinical thermome 2. Hydrogen peroxide is 3. Nitrogen gas occupie 4	eter is graduated from used in preparations of atmosphere are from bad conclowing: Is both the heart and the sed by down displace.	n ofgospheric air. luctors of head	t.
1. The clinical thermome 2. Hydrogen peroxide is 3. Nitrogen gas occupie 4	eter is graduated from used in preparations of atmosphere are from bad conclowing: Is both the heart and the sed by down displace.	n ofgospheric air. luctors of head	t.
1. The clinical thermome 2. Hydrogen peroxide is 3. Nitrogen gas occupie 4. and 1. The ribcage surround 2. Oxygen gas is collect 3. Oxygen gas is collect 3. Oxygen between mas	eter is graduated from used in preparations of atmosphere are from bad conclowing: Is both the heart and the sed by down displaces and weight access and weight access.	n ofgospheric air. luctors of head	t. er.
1. The clinical thermome 2. Hydrogen peroxide is 3. Nitrogen gas occupie 4	eter is graduated from used in preparations of atmosphere are from bad conclowing: Is both the heart and the sed by down displaces and weight access and weight access.	n ofgospheric air. luctors of head	t. er.



Part

Aluminium cor	nducts heat faster t	han copper.	C	(2) //2
2. Wrist in hand t	from freely movable	e joints.	(33 93
3. Oxygen gas is	used in cooling.		(13
4. The weight is o	constant and does r	ot change with the	change in place. (
[B] Mention one use	for the following			
1. Good conduct				
2. Bad conductor	rs of heat.	***************************************	***************************************	
[C] Look at the follo			10 20 30 40 50 60 70 80 90 1	»
1. What is the na	me of this device?			
2. Mention the us	se of this device.			4
2. Mention the us	se of this device. uid which is used i			4 4
2. Mention the us 3. What is the liq [A] Choose the corr	e of this device.	n making it ?	ton so its mass	 M
2. Mention the us 3. What is the liq [A] Choose the corr	e of this device. uid which is used in the sect answer: a body on Earth's		ton, so its mass	44 44
2. Mention the us 3. What is the liq [A] Choose the corr 1. The weight of	e of this device. uid which is used in the sect answer: a body on Earth's	n making it ?	ton, so its mass	
2. Mention the us 3. What is the liq 1. The weight of equals	ect answer: a body on Earth's	n making it ?	d. 2000 kg.	
2. Mention the us 3. What is the liq 1. The weight of equals	ect answer: a body on Earth's	n making it ? surface is 20 New c. 200 kg.	d. 2000 kg.	
2. Mention the us 3. What is the liq 1. The weight of equals a. 2 kg. 2. In respiration a a nitrogen	ect answer: a body on Earth's b. 20 kg. and combustion, the b. argon	n making it ? surface is 20 New c. 200 kg. e gas is c	d. 2000 kg. onsumed. d. carbon dioxi	
2. Mention the us 3. What is the liq 1. The weight of equals a. 2 kg. 2. In respiration a a nitrogen	ect answer: a body on Earth's b. 20 kg. and combustion, the b. argon	making it ? c. 200 kg. e gas is c	d. 2000 kg. onsumed. d. carbon dioxi	de
2. Mention the use	ect answer: a body on Earth's b. 20 kg. and combustion, the b. argon g are from good co	c. 200 kg. e gas is conductors of heat exception.	d. 2000 kg. onsumed. d. carbon dioxi)
2. Mention the use	ect answer: a body on Earth's b. 20 kg. and combustion, the b. argon g are from good co	c. 200 kg. e gas is conductors of heat exception.	d. 2000 kg. onsumed. d. carbon dioxi xcept d. aluminium.	as.
2. Mention the use 3. What is the liquid sequence a. 2 kg. 2. In respiration a. nitrogen 3. All the following a. iron. 4. Photosynthesis	ect answer: a body on Earth's b. 20 kg. and combustion, the b. argon g are from good co b. glass. process in the plan b. nitrogen	c. 200 kg. egas is conductors of heat exceptors. It depends on the process of conductors of the process of conductors.	d. 2000 kg. onsumed. d. carbon dioxi xcept d. aluminium. esence of ga	as.



	1. The cartilages.	***************************************	
	2. Nitrogen gas.		

[A]	Write the scientific to	erm of each of the following statem	ents:
	1. The force with whic	h a body is attracted to the Earth.	(
	2. A gas which change	e clear limewater turbid.	(
	3. An organ consists of 33 vertebrae.		(
	4. A gas which is nece	essary for rusting process.	(
[B]	Join from (A) what is	suitable from column (B):	
	(A)	(B)	TOTAL STREET
	1. Cranial nerves	a. responsible for involuntary process	ses.
	2. Spinal nerves	b. responsible for voluntary processe	s.
	3. Medulla oblongata	c. responsible for reflex action.	
	4. Spinal cord	d. are 31 pairs.	0
		e. are 12 pairs.	
5	North Sinai Gover		irectorate
we	r the following quest	ions :	
[A]	Complete the following	ing sentences :	
	1. The number of vert	ebrae of vertebral column is	
	2. The main center of	the control in your body is	
	3. The ····· therm	ometer is used in measuring the wate	r temperature.
	The weight of the bo	dy on Earth's surface increases as the	increase
	(BS) 2-227 - CE40 TO THE	ccupies % of atmospheric air.	



106



هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره فى أى مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com

c. iron.

b. copper.

d. mercury.

a. aluminium.

(A)	t is suitable from column (A):
	(B)
1. Kilogram	a. is a liquid used in manufacture of thermometers.
2. Celsius degree	b. is the measuring unit of mass.
3. Mercury	c. keep the balance of human body durin movement.
4. Wieght	d. is the measuring unit of temperature.
5. The two arm balanced scale	e. is the force with which a body is attract to the Earth.
6. Cerebellum	f. is a device of measurement of mass.
What would happen in the following the follo	is exposed several days to humid air.

107



هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره فى أى مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com

4. The oxygen gas is consumed during and processes.

3. The number of cranial nerves is pairs.



لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com

A tool which is used for measuring liquids temperature.	(
A long strips fix muscles with bones.	(
The unit building of nervous system.	(
6. The main source to prepare nitrogen gas.	(
[A] Correct the underlined word in each of the following sta	atements :
1. The liquid used in medical thermometer is alcohol.	(
2. Hydrogen gas is used in welding and cutting metal	
when combine with acetylene gas.	(
The vertebral column consists of 34 vertebra.	(
 Carbon dioxide gas is needed for rusting process. 	(
The ozone molecule consists of <u>four</u> oxygen atoms.	(
The handles of cooking pans made up of copper.	(
[B] Give reason for the following :	
There is a constriction in the medical thermometer.	
Matrouh Governorate The Educational D	rectorate
swer the following questions :	100
[A] Complete the following statements :	
1. The heat is a form of the forms of	4
 Theis the measuring unit of mass, whereas the measuring unit of weight. 	·····is the
3is the main control center in human body.	
4. The oxygen percentage in the air is % and nitro the air is %	
[B] Mention the function of each of the following :	gen percentage i
1. The ribcage.	gen percentage i
	gen percentage i
	gen percentage i
2. Oxy-acetylene flame.	gen percentage i
2. Oxy-acetylene flame.	gen percentage i



2 Part

a. iron.	neiais uniei in contoucan		
	b. copper.	g heat, the fastest is c. aluminium.	d. gold.
	whose mass on Earth is	AUSTRICATION CONTROL OF CONTRACTOR	and the second second
is		oqual to 10 kg. ito i	nado dir ino modii
a. 15 kg.	b. 15 Newton.	c. 150 kg.	d. 150 Newton.
3. The gas u	sed to fill some types of	lamps is	
a. oxygen.	b. nitrogen.	c. ozone.	 d. carbon dioxide.
4is	a bad conductor of hea	at.	
a. Copper	b. Wood	c. Gold	d. Mercury
[B] Give reason	for the following:		
1. Nitrogen is	s used in filling car tires.		
2. Ozone lay	er has a great importance	e to the human life a	nd all living organisms.
Mercury is	s preferred in making the	ermometers (two or	nly).

[A] Write the sc	ientific term :		<i>A</i>
HALL MANUSCHE BOS CAN-SO	ids the clear limewater.		()
i. A yas tuib	ius trie clear illriewater.		
			<u> </u>
2. A gas use	d in ammonia industry.	rnal substance in	<u> </u>
2. A gas use 3. A human o	d in ammonia industry. organ consists of an inte	and the second s	
2. A gas use 3. A human of the grey n	d in ammonia industry.	and the second s	
A gas use A human of the grey not surrounder	d in ammonia industry. organ consists of an intendent of an intendent in the consists of an intendent in the constant of the constant in the c	he shape of letter (I	H)
2. A gas use 3. A human of the grey no surrounde 4. Automatic	d in ammonia industry. organ consists of an intendenter and it appears in the dearth of the body to the second of the body to	the shape of letter (l	H) (
 A gas use A human of the grey not surrounded Automatic The mater 	d in ammonia industry. organ consists of an intenditer and it appears in the dots the white matter. response of the body to the rials that let heat flow the	the shape of letter (letter (l	-1) (
 A gas use A human of the grey not surrounded Automatic The mater 	d in ammonia industry. organ consists of an intenditer and it appears in the dots the white matter. response of the body to rials that let heat flow the mass of an object or	the shape of letter (letter (l	-1) () ()



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Final Exams

- 3. The heat transfers from the cold object to the hot object.

 4. Knee joint is considered ed as freely movable joint.

 ()
- [B] From the opposite figure, complete :



تفوقك في أي مذكرة عليها العلامة دي مركاتها العلامة دي مركاتها العلامة دي مدكرة عليها العلامة دي مركاتها العلامة العلام

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Some exams questions have been modified according to the ministry modifications for the first term 2019 - 2020





1 Cairo Governorate

Manar House International Schools

Answer the following	questions :
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Complete the following statements:	
1. The Celsius thermometer is used in meas	uring the temperature of
, while the medical thermometer is used in	measuring the temperature of
2. Mass is measured by, whereas v	weight is measured by
3. Central nervous system consists of	···· and ············
 Limewater turns milky in presence of which is insoluble in water. 	due to the formation of
5. The ribcage protects and	
6. Oxygen gas represents of the vol	lume of air , while represents
78 % of the volume of the atmosphere.	
[A] Write the scientific term of the followi	ng statements :
 The used liquid in thermometers. 	()
The building unit of nervous system.	()
Materials that used in making cooking	pots and kettles. ()
4. The joint which allows the movement i	in all directions. ()
5. The gas that doesn't burn but it helps	in burning. ()
A substance that is formed when a ma	agnesium ribbon is burnt in a cylinder
containing oxygen gas.	()
[B] Choose the correct answer :	
 The heat energy can be used in all the 	following applications except
a, cooking,	b. heating water.
c. manufacture of glass.	d. making a chair.
carbonate.	lute hydrochloric acid to calcium
a. Carbon dioxide b. Nitrogen	c. Oxygen d. All the previous
3. The mass of your school desk depend	ds on
a. weight.	b. gravity.
c. amount of matter.	d. distance from planet.
	A.

94)



# 0	4. A Newton is the weight	gnt of a ball its ma	ass is	
	a. 80 grams.	b. 8 kg.	c. 8 grams.	d. 100 grams.
5	5. ····· gas is used	l with acetylene to	weld metals.	
	a. Carbon dioxide	b. Nitrogen	c. Oxygen	d. All the previous
(6. A rapid combination	between oxygen	and an element p	roducing
ES.	a. heat.	8 2	b. light.	851
	c. (a) and (b).	<u>a</u>	d. no correct a	answer.
3. [A] 0	Sive reasons for :			
	1. The presence of a	constriction in the	medical thermom	eter.

		*********	***************************************	
	2. The cerebrum is a v	ery important par	t of the brain.	38 38
	••••••			
		·····	************************	······································
	Weight of an object of	on the Earth's surf	ace is more than it	s weight in a balloon.

		· ·		
	The handles of cool	king pots are mad	le of wood or plas	tic.
	************************	************************		
	***************************************			***************************************
[B] C	orrect the underline	d words in the fo	ollowing stateme	nts:
1	. Ozone gas consists	of <u>2</u> oxygen atom	s.	()
2	. Newton is the amou	nt of matter in an	object.	_ ()
3	Light is a form of en	ergy that transfer	s from the higher	temperature object
	to the lower tempera	ture object.		()
4	. The <u>cerebrum</u> contr	ols the involuntar	y movement.	()
4. [A] V	Vhat happens when .	?		
- X - X - ,	. You hold a piece of i			· · ·
			51 ************************************	

2	2. The percentage of C	O ₂ gas in air incr	eases.	
		4 7		
		************************	***************************************	
	100			(95)



[B] Notice the following figure and write down



the labels on the figure : ① ② ③ ④	(4) (3) (3) (3)
[C] Problem :	**************************************
An object its mass on the Earth is 90 kg., calculate its weigh of the Earth and the moon.	t on both surfaces
Cairo Governorate Basateen and Dar Educational Adminis	100 m 1 100 m 100
nswer the following questions :	÷ 11
 [A] Complete the following sentences : 	
Nervous system consists of two main systems which are and	**************
2. Handles of cooking utensils are made up of and	
3. Weight of an object can be measured by using the	PS.
4. Oxygen combines with acetylene gas to produce	F 14
[B] Write one function of the following :	
1. Ribcage :	-
2. Carbon dioxide gas : ······	5.0
3. Celsius thermometer :	12
[A] Write the scientific term of each of the following statement	onte :
Mixture of gases surrounding the Earth.	(
2. Degree of hotness or coldness of an object.	
Automatic body response towards different stimuli.	N
A gas its percentage in the atmospheric envelope represents 7:	(······) 9 % /
	1200
5. Amount of matter in an object.6. The building unit of nervous system.	()
96)	()



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following figure : a b	reparation of this gas		ap) _a	Carbo dioxid gas
[A] What happens wh	en ?	······································		
1. Two bodies have	e the same temperat	ure touch each	other.	
# Fig. 1000000000000000000000000000000000000				
[100.00100.0				
Ozone layer is d	ecayed.		= 11 89	60
	Engles and the second second			
3. The modulle obl	onacto is domoced			
5. The medula obli	ongata is damaged.			
	·*************************************			
[B] Choose the correc	rt answer :	¥I		
1. Melting point of id		e	¥,,	
a. 100	b. zero	c. 42	d. 37	22
	vater into turbid is	100 to 22 5 5 5 5 5	4.07	ř.
a. oxygen	b. nitrogen	c. ozone	d, carbon	diovide
	us system consists o	251625505153493463	504457475455611.07426	dioxido
a. 31	b. 12	c. 21	d. 43	
	1100000	0.21	u. 45	
NOTE:	equal tokg.	K 1	405	
a. 50	b. 500	c. 5	d. 0.5	
	ach of the followin	a:	*	
A] Give reasons for e	nstriction in medical	₹!		





NIATORA AND AND AND AND AND AND AND AND AND AN	th surface equals
Newton, calculate: 1. Mass of the object on the Earth.	
2. Mass of the object on the moon's surface.	
3. Weight of the object on the moon's surface.	· · · · · · · · · · · · · · · · · · ·
wer the following questions :	•
	s:
Write the scientific term of the following statements	0928
Write the scientific term of the following statements 1. The amount of matter in an object. 2. The building unit of the nervous system. 3. Location at which bones meet each other.	(
Write the scientific term of the following statements 1. The amount of matter in an object. 2. The building unit of the nervous system. 3. Location at which bones meet each other. 4. The speed automatic response of the body to extern	(
Write the scientific term of the following statements 1. The amount of matter in an object. 2. The building unit of the nervous system. 3. Location at which bones meet each other.	(
Write the scientific term of the following statements 1. The amount of matter in an object. 2. The building unit of the nervous system. 3. Location at which bones meet each other. 4. The speed automatic response of the body to extern the state of the importance of the following:	(



ē.	2. The bone that of	connects the ribs fron	n front is	
	a. femur.	b. skull.	c. sternum.	d. humerus.
	3. The mass of hal	f liter of distilled wate	r equals	©
	a. 100 gm.	b. 150 gm.	c. 500 gm.	d. 1000 gm.
1	4. A substance wh	ich is a good conduct	or of heat	
	a. wool.	b. plastic.	c. iron.	d. wood.
B]	Underline the uns	suitable word in the	following and m	ention the reason :
	1. Shoulder joint -	thigh joint - wrist joint	- elbow joint.	a N
	•			
	2. Two cerebral he	mispheres - spinal co	ord - medulla oblo	ngata - cerebellum.
			8	
	ALL STRAINS AND	owing statements :	(i) 10 1201	
		medical thermometer		
2		nerves arise from the	e brain, while	····· pairs of nerves
	arise from the sp	High and the Personal Paragraphics		
	ALCOHOLOGICAL PROPERTY AND	object depends on		43
		al in conducting heat	IS	\$
B]	Give reasons for	menna saarasta be-wind a ann		CONTRACTOR OF THE TAX STREET
		gas is collected by u placement of water.	pward displaceme	ent of air and isn't
	2. Mercury is used	in making thermome	eters.	
	***************************************		***************************************	
A1	Correct the under	lined words in the f	ollowing stateme	ents :
-		kide is used as a cat	IN SECTION OF THE SEC	
				()
	2. The occurrence	of the fermentation p	rocess in the doug	2 (A)
	release.			()
	3. Vinegar is used	in sterilizing the med	ical thermometer	before usage.
;	N 75-0-38 N 15-0-3-5	E2.		()
;				
	4. The white matte	r in the spinal cord ha	as the shape of let	ter "H".()
	4. The white matte	r in the spinal cord ha	as the shape of let	ter "H". ()





1. Its mass on the Earth.		
***************************************	······································	
2. Its weight on the moon.	:: :	
3. Its mass on the moon.	***************************************	* * ***
***************************************		•••
Cairo Governorate	Nozha Language Schools	
ver the following questions :		_
	1960	
] Put (√) or (≭) in front of the fo	llowing:	
Put (√) or (x) in front of the fo 1. The liquids expand by heating	22 (12 A - 12 A	
1. The liquids expand by heating	22 (12 A - 12 A	er
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. 	and contract by cooling. (s in the presence of a catalyst into nitroge (er
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. As the mass of the planet increase. 	and contract by cooling. s in the presence of a catalyst into nitroge (eases, its gravitational force decreases. (er
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. As the mass of the planet increase. Nitrogen gas represents 0.03 feet 	and contract by cooling. s in the presence of a catalyst into nitroge (eases, its gravitational force decreases.(% of the air volume.	=1
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. As the mass of the planet increase. Nitrogen gas represents 0.03 for the company of the planet faster the company of the company of the planet faster the company of the	and contract by cooling. s in the presence of a catalyst into nitroge (eases, its gravitational force decreases.(% of the air volume. (han aluminium.	er
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. As the mass of the planet increase. Nitrogen gas represents 0.03 	and contract by cooling. s in the presence of a catalyst into nitroge (eases, its gravitational force decreases.(% of the air volume. (han aluminium.	21
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. As the mass of the planet increase. Nitrogen gas represents 0.03 for the conducts heat faster the factor of the conducts heat f	and contract by cooling. s in the presence of a catalyst into nitrogeneses, its gravitational force decreases. (% of the air volume. han aluminium. (mixture of gases.	
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. As the mass of the planet increase. Nitrogen gas represents 0.03 for the conducts heat faster the The Earth is surrounded by a result of the conducts of the conducts heat faster the 	and contract by cooling. s in the presence of a catalyst into nitrogeneses, its gravitational force decreases. (% of the air volume. han aluminium. (mixture of gases.	
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. As the mass of the planet increase. Nitrogen gas represents 0.03 for the conducts heat faster the factor of the conducts heat f	and contract by cooling. s in the presence of a catalyst into nitrogeneses, its gravitational force decreases. (% of the air volume. han aluminium. (mixture of gases.	
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. As the mass of the planet increase. Nitrogen gas represents 0.03 for the Earth is surrounded by a result of the Earth is surrounded by a result. There is a constriction in the mass of the planet increase. 	and contract by cooling. s in the presence of a catalyst into nitroger (eases, its gravitational force decreases.(% of the air volume. han aluminium. (mixture of gases. nedical thermometer.	21
 The liquids expand by heating Hydrogen peroxide dissociates gas and oxygen gas. As the mass of the planet increase. Nitrogen gas represents 0.03 for the conducts heat faster the factor of the conducts heat f	and contract by cooling. s in the presence of a catalyst into nitroger (eases, its gravitational force decreases.(% of the air volume. han aluminium. (mixture of gases. nedical thermometer.	

2. Write the labels:	
(a)	CANDING TO THE PARTY OF THE PAR
Б	
©	
	*/ S
Match from column (B)	what is suitable from column (A) :
(A)	(B)
1. Spring scale	a. used to measure the mass.
2. Clinical thermometer	b. used in making heavy blankets and woolen cl
3. Conductors	c. used to measure the body temperature.
4. One-arm scale	d. used to measure the weight.
5. Insulators	e. used to make cooking pots and kettles.
 The melting point of ice Oxidation is a rapid u 	
 Oxidation is a rapid unheat and light. Cerebrum lies at the total the balance of the bod 	nion between oxygen gas and an element prod (back area of the brain and maintains ly.
 Oxidation is a rapid unheat and light. Cerebrum lies at the bithe balance of the bod Carbon dioxide gas is 	nion between oxygen gas and an element prod (
 Oxidation is a rapid unheat and light. Cerebrum lies at the balance of the bod Carbon dioxide gas is of water. 	nion between oxygen gas and an element production of the brain and maintains (
 Oxidation is a rapid unheat and light. Cerebrum lies at the balance of the bod Carbon dioxide gas is of water. If the object's mass = 30 	nion between oxygen gas and an element production of the brain and maintains ly. collected by downward displacement (
 Oxidation is a rapid unheat and light. Cerebrum lies at the balance of the bod Carbon dioxide gas is of water. 	nion between oxygen gas and an element production of the brain and maintains ly. collected by downward displacement (
 Oxidation is a rapid unheat and light. Cerebrum lies at the balance of the bod Carbon dioxide gas is of water. If the object's mass = 30 Its weight on the Earth 	nion between oxygen gas and an element production of the brain and maintains (
 Oxidation is a rapid unheat and light. Cerebrum lies at the balance of the bod Carbon dioxide gas is of water. If the object's mass = 30 	nion between oxygen gas and an element procedure and maintains back area of the brain and maintains by. collected by downward displacement (
 Oxidation is a rapid unheat and light. Cerebrum lies at the balance of the bod Carbon dioxide gas is of water. If the object's mass = 30 Its weight on the Earth 	nion between oxygen gas and an element procedure area of the brain and maintains (
 Oxidation is a rapid unheat and light. Cerebrum lies at the balance of the bod Carbon dioxide gas is of water. If the object's mass = 30 Its weight on the Earth 	nion between oxygen gas and an element production of the brain and maintains by. collected by downward displacement (





2. The heat tra		e object of ter	mperature to	the object of
	WGW.	hich a body is attracted	d to the Earth	j. I Ros
		s of		
THE RESIDENCE OF THE PROPERTY	uch as clover a	and peas benefit from	SOUTHWEST OF STREET STATES	in the
[B] Look at the o	pposite figure	e, and then answer :		
1. This figure	represents	thermo	meter.	9
2. Label the fig	gure :			
①	***********	***************************************		4
②		*****		
③				3
[A] Write the scie	entific term :		()(C) - 2 - 1	
1. The degree	of hotness or	coldness of a body.		()
2. The product	from the com	bination of magnesium	with oxygen	. ()
3. It consists o	f a gray matte	in the form of letter "H	ł" surrounded	3
by a white n	natter.		* 2	()
 A gas that p calcium carl 		ding dilute hydrochlorid	c acid to	()
5. The measur	ing unit of mas	ss which almost equals	s to a mass	
of one liter of	of distilled water	er.		()
[B] Choose the c	orrect answe		10	* 140
1are	the joints that	t allow the movement i	n one direction	on
a. Freely mo	ovable joints	b. Immovable joints	c. Slightly	movable joints
2. Oxygen gas	· ····································			3K
a. doesn't b	urn and doesn	't help in burning.	**	₽
b. burns and	d helps in burn	ing.	10	25
c. doesn't bi	urn but helps ir	burning.	1.004	
3. The mass o	f a desk deper	nds on the		(0)
a. weight.		b. amount of matter.		
c. distance f	from the planet	center.		5
	8):			

(102)



4. Anmed can sterilize th	ie thermometer by using	
a. water.	b. benzene.	c. ethyl alcohol.
5. The main source of ox	cygen in air isp	rocess.
 a. photosynthesis 	b. respiration	c. oxidation
[C] What happens when	?	**
1. Carbon dioxide passe	s through limewater.	
2. A medical thermometer	er is put in boiled water.	
		T
Cairo Governora	ite Nasr Offi	cial Language School
wer the following questio	ns :	
A] Write the scientific tern	1 :	aw
1. A gas mixed with oxyg	en to be used in welding	g metals. (
2. The degree of hotness	or coldness of a body.	(
3. A layer in the atmosph	ere that protects the Ear	rth from harmful
radiations coming from	n the Sun.	. (
4. A gas that raises the E	arth temperature when	its percentage
increases.	e	(
5. Automatic response of	f the body to different sti	muli. (
The system that consi	sts of cranial nerves and	spinal nerves. (
A rapid union of oxyge	n with an element produ	icing heat
and light.		(
8. The basic structure un	it of the nervous system	. (
[B] Compare between :	#\display	# # # # # # # # # # # # # # # # # # #
Points of comparison	Cranial nerves	Spinal nerves
Definition :	***************************************	

e e contente

هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https://www.zakrooly.com

مرقع ذاكروني التطبيعي

الصف السادس الابتدائي



2. [A] Complete the f	and the same of th		選 選 20 NON-2012年2月17 日報	
	eacts with carbon diox owder of	ide forming a white	e powder of	**********
2. The graduation	n of the clinical therm	ometer is between	and	
3. The measurin	g unit of weight is ······	, while the me	easuring unit o	f mass
[B] Write the funct	ion of :			
Spring scale.			搅	5
	······································	***************************************		
3. [A] Put (√) in fron	t of the right statem	ents and (🗴) in fr	ont of wrong	one :
1. All materials a	are good conductors o	f heat.		(
VACOUS SUMMAN DELVISION OF THE PERSON	vitational force decreaser of the planet increase	- With the Control of	ce between an	object (
3. Mass differs a	according to the plane	t where the object	exists.	(
4. The white ma	tter of the spinal cord	has the shape of I	etter "H".	. (
5. The cerebellu	ım contains centers of	thinking and mem	nory.	(
6. The Celsius t temperature.	hermometer is used in	n measuring the hu	ıman body	i :
[B] Give reasons f	or:			
The state of the s	nstriction in the medic	al thermometer.	80 M	
			······································	
2 Clear limowe	tor bosomos turbid wh	on carbon diavida	naceae into it	
Z. Clear limewa	ter becomes turbid wh		passes into it.	
****************	***************************************	***********		
3. Damage of th	e medulla oblongata d	causes death.	*	2
•••••••				
***************************************	***************************************			
4. [A] Choose the co	rrect answer :			
1. Among the fre	eely movable joints ar	e ····· joints.		54
a. knee	b. thigh	c. elbow	d. skull	
(104)			<u>:</u>	



30 2000	2. All the following an except	e from the constituer	nts of the human s	skeletal system
	a. joints.	b. backbone.	c. spinal cord.	d. ribcage.
	3. Photosynthesis pro		(D) = 121	(A)
	a. nitrogen.	b. oxygen.	c. carbon dioxid	de. d. ozone.
4	4. Humerus bone is o	ne of the bones of		超
	a. lower limbs.	b. upper limbs.	c. backbone.	d. axial skeleton.
L-day	5. Your weight on the surface is		Newton, so your	weight on the Earth
	a. 300	b. 500	c. 10	d. 100
B] \	What will happen w	hen :	**	74, <u>62</u>
44417	The overuse of soft d	rinks.	All II	≈ *'±
wei	Cairo Governo		Saint Mary's So	chool
A] C	Choose the correct a	answer:	W 83	
1	1. ····· is the grav	ritational force by wh	ich a body is attra	cted to the Earth.
	a. Weight	b. Mass	c. Volume	d. Density
2	2. Cooking utensils ar	e provided with hand	dles of	-85
	a. copper.	b. plastic.	c. iron.	d. aluminium.
3	3. Every degree in the	medical thermomet	er is divided into	parts.
	a. 3	b. 5	c. 6	
4	1. Oxygen is	TANK DESCRIPTION OF THE PROPERTY OF THE PROPER		d. 10
	Oxygon io	than air.		d. 10
	a. heavier	than air. b. lighter	c. colder	d. 10

e (containe



a. oxygen b. nitrogen	c. carbon dioxide	d. ozone
6. The axon is covered with a fatty subs	stance called	
a. gray matter. b. synapse.	c. myelin sheath.	d. dendrite:
3] Classify each of the following joints	according to their typ	oes :
1. Skull joints.		10
•••••••••••••••••••••••••••••••••••••••		
2. Knee joint.	200	25 - 25
*		
3. Wrist joint.		27
Mention one importance of :	27	類 医征
1. Cerebellum.	57 ES	

2. Celsius thermometer.		
3. Yeast.	······································	- E
S. Teast.		ja e
An organ contains the centers of thin	iking and memory.	
 A gas is called azote which means lift The product of combination of oxyger The liquid used in sterilizing the med The measuring unit of weight. Materials that do not let heat flow thr 	n with lighted magnesiu lical thermometer.	(
3. The product of combination of oxyger4. The liquid used in sterilizing the med5. The measuring unit of weight.6. Materials that do not let heat flow thr	n with lighted magnesiu lical thermometer.	(
3. The product of combination of oxyger4. The liquid used in sterilizing the med5. The measuring unit of weight.6. Materials that do not let heat flow thr	n with lighted magnesiu lical thermometer. ough.	(
 The product of combination of oxyger The liquid used in sterilizing the med The measuring unit of weight. Materials that do not let heat flow thr What happens when ? 	n with lighted magnesium lical thermometer. ough. o over calcium carbona	(m. (((
 The product of combination of oxyger The liquid used in sterilizing the med The measuring unit of weight. Materials that do not let heat flow thr What happens when? Addition of dilute hydrochloric acid to Absence of a constriction above the 	n with lighted magnesium lical thermometer. ough. o over calcium carbona	(m. (((



3. [A] Complete the following statements :	¥		10		
1. The scale of medical thermometer starts from 35°C to	******				
2. The objects seem weightless in the space due to the absence of					
3. The dendrites are connected to neighbouring neurons compo	osing the		****		
4. Oxygen combines with acetylene gas to produce	Đ	I.			
[B] Correct the underlined words in the following statements	s :		25		
1. Water is composed of oxygen and nitrogen.	(*******)		
2. The normal temperature of the healthy person is 35°C.	()		
 The effect of weight is always directed towards the <u>surface</u> of the Earth. 	e ()		
4. The automatic response of the body to the external stimuli	ia Str				
is known as the voluntary response.	(····)		
. [A] Put (✓) or (ϫ) in front of the following :					
Backbone consists of 31 pairs of ribs.	5	()		
2. Dendrites are branches extend from the neuron's cell body	у.	()		
3. Gasoline is the material that is used in making cigarettes.	50	()		
4. Oxygen cylinders are used during diving and climbing more	untains.	()		
5. The different metals transfer heat at the same rate.	XC	()		
[B] Give reasons for :		¥			
1. The mass of a body on the Earth's surface equals the mass	ss of				
the same body on the moon's surface.	10 10				
***************************************	***************				
2. Although oxygen is consumed during respiration, its perce	entage rem	ains			
stable in the atmosphere.					

[C] If an object's mass = 12 kg. on the Earth, calculate :	6				
Its weight on the moon.					
······································		*******	*****		
		······	·····		
		(10	7)		





7

Giza Governorate

Child Home Language School

Answer the following questions	
--------------------------------	--

Answer the following questions .	×
1. Complete the following statements :	**
1. Mass is measured by, while weight is measured by	······································
2. The clinical thermometer is scaled from to	2
3. Exhaled air contains gas which turbid	*** *** ***
4. The nervous system is composed of and and	T a
5. The catalyst remains without change in its and and	1217
6. The nitrogen gas molecule consists of atoms.	199
7. The number of cranial nerves is	8 45/8
2. [A] Give reasons for :	- j ₂
1. The force of the moon's gravity is less than that of the Eart	h's gravity.
•••••	

Leaving spaces between the railway bars.	641
**************************************	**********
~ ~ ~ · · · · · · · · · · · · · · · · ·	
Percentage of oxygen gas remains constant in air.	
***************************************	***********
4. Yeast is added to dough during making bread.	n 1

5. We must avoid using tranquilizers and stimulants.	*
C Nitroppe and in called "aresta" which means lifelance	
Nitrogen gas is called "azote" which means lifeless.	

(R) Write one function of :	
and write one function of a	

(108)



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Dendrites of the nerve cell.

Z. SKUII.	
3. Ribcage.	

Oxy-acetylene flame.	

5. Medulla oblongata.	e e e e e e e e e e e e e e e e e e e
6. Heat insulators.	

[A] What happens if ?	
1. The distance between the body and the c	enter of the Earth increases.

2. There is no constriction above mercury bu	ulb in clinical thermometer.
3. Dilute hydrochloric acid is dropped over c	alcium carbonate.
4. Nodular bacteria are removed from plants	roots.
5. An iron nail wetted by water is exposed fo	r many days to humid air.

Hydrogen peroxide is dropped over mang	anese dioxide.
: ************************************	
[B] Label the following figure:	A TOTAL
① ······	. 1
②	
③	
4	(5)
(5)	
6	
	(100)





• [A] Write the scientific term :	- 5
1. The amount of matter in an object.	()
2. Group of joints that allow movement in one direction	. ()
3. The fast reaction of an element with oxygen which g	enerate heat.
	()
An organ responsible for reflex action.	()
A liquid used to sterilize thermometer.	()
[B] If the mass of a body on the Earth is 18 kg. Calcula	te:
1. Its mass on the moon.	
2. Its weight on the Earth.	ь
3. Its weight on the moon.	***************************************
[C] What is meant by ?	No.
1. Oxidation.	e v
2. Reflex action.	2) - - - - - - -
3. The atmosphere.	
Giza Governorate Al-Agoza Education	nal Directorate
swer the following questions :	
[A] Write the scientific term for each of the following :	
A part of the nervous system is responsible for reflex	action ()
The amount of matter that the body contains.	()
	. ()
The substances that allow heat to pass through.	1 (A)
 The substances that allow heat to pass through. A flame is used in cutting and welding metals. 	()
 The substances that allow heat to pass through. A flame is used in cutting and welding metals. Mention one function : 	()



THE RESIDENCE OF THE PROPERTY	ing statements :		77
1. The human skeleta	system consists of	and	
Oxygen is consume	ed inand		
3. The mass is measu inunit.	ıred in unit ,	, but the weight is	s measured
4. The number of spin nerves is	al nerves in human i	isand tl	ne number of cran
[B] What happens when	i i		
An iron nail moistene several days.	ed with water is expo	sed to a humid a	tmosphere for

[A] Choose the correct	answer:		10.7
1. We use to	make the electric iro	on handle.	20
a. iron	b. copper	c. plastic	d. aluminium
The carbon dioxide	is used in the indus	try of	20 Table 1
a. steel.	b. gun powder.	c. fertilizers.	d. soft drinks.
3. If the weight of a bo	ody is 20 Newton its	mass equals	
a. 2 kg.	b. 20 kg.	c. 200 kg.	d. 2000 kg.
4. All the following are except	from the componen	nts of central ner	vous system
a. spinal nerve.	b. two cerebral	hemispheres.	
c. spinal cord.	d. medulla oblor	ngata:	#8 #1 mg
[B] Correct the underlin	ed words :)+(9.0 5.4
1. Nitrogen doesn't b	ourn , but it helps in t	burning.	(
2. The part which is respinal cord.	esponsible for keepi	ng human body l	oalance is
[A] Give reasons for each	h of the following		W = 1.00 = 1.00 = -
There is a constrict	ST-		#0

2. The ribcage surrou		(A) (S) 1/6	





and the parties of the same		
[B]	Look at the opposite figure, then answer :	*
* 1	1. Label the figure :	
	①	
	②	
8	2. Carbon dioxide is collected by upward	" -co ₂
	displacement of air. Why?	18 18
ä		
9 (Giza Governorate Dar El-Hanan Language School	
nswei	the following questions :	A
[A] (omplete the following statements :	\$6 E
1	. The main idea of making thermometers is the changing the	of
2	The percentage of carbon dioxide gas in the atmospheric air is	····· and
(BI)	What's the importance of ?	\$1 [2]
	I. Spring scale.	
40		
3	2. Skull.	
[A]	Write the scientific term of each of the following :	- E4
	The measuring unit of mass which is equal to the mass of one liter of distilled water at normal temperature.	of)
	The liquid that is used in making the medical and the Celsius (
	3. A gas that its molecule is composed of three oxygen atoms. ()
		······)
	Problem :	
1945 DATE: 144 DA	An object's mass = 30 kg. on the Earth's surface , calculate its weight o	on the
	Earth's surface.	

		4



 Oxygen gas is prepared from hydrogen perox 	ide dissoc	ciates in t	he	
presence of carbon dioxide gas.		54 80		(
······································			********	8
2. Oxygen combines with a lighted magnesium r	ribbon forn	ning a wl	nite	8 9
substance.		44		(8
3. The axon of the nerve cell is surrounded by a	gelatinous	s layer .		(
				AB III
4. The bones of the lower limbs consist of hume	rus bone,	forearm	bones	and
hand bones .	: : : : : : : : : : : : : : : : : : :		NZ ZENY	(
•		***********		
[B] Give reasons for the following :		5 g	ë	
AND THE PROPERTY OF THE PROPER		wood		
 The handles of cooking utensils are made of 	plastic or	wood.		
The handles of cooking utensils are made of Clear limewater gets turbid if carbon dioxide	•		h it.	
2. Clear limewater gets turbid if carbon dioxide	gas passe	s throug	h it.	
2. Clear limewater gets turbid if carbon dioxide	gas passe	s throug	h it.	*****
Clear limewater gets turbid if carbon dioxide [A] Classify each of the following joints according	gas passe	s throug	h it.	
Clear limewater gets turbid if carbon dioxide [A] Classify each of the following joints according 1. Skull joints.	gas passe	s throug	h it.	
2. Clear limewater gets turbid if carbon dioxide [A] Classify each of the following joints according 1. Skull joints. 2. Knee joint. 3. Shoulder joint.	gas passe	s throug	h it.	
2. Clear limewater gets turbid if carbon dioxide [A] Classify each of the following joints according 1. Skull joints. 2. Knee joint. 3. Shoulder joint. [B] Look at the following figure, then answer:	gas passe	s throug	h it.	
2. Clear limewater gets turbid if carbon dioxide [A] Classify each of the following joints according 1. Skull joints. 2. Knee joint. 3. Shoulder joint.	gas passe	s throug	h it.	
2. Clear limewater gets turbid if carbon dioxide [A] Classify each of the following joints according 1. Skull joints. 2. Knee joint. 3. Shoulder joint. [B] Look at the following figure, then answer: 1. Liquid ①:	gas passe	s throug	h it.	
2. Clear limewater gets turbid if carbon dioxide [A] Classify each of the following joints according 1. Skull joints. 2. Knee joint. 3. Shoulder joint. [B] Look at the following figure, then answer: 1. Liquid ①: 2. Substance ②:	gas passe	s throug	h it.	******
2. Clear limewater gets turbid if carbon dioxide [A] Classify each of the following joints according 1. Skull joints. 2. Knee joint. 3. Shoulder joint. [B] Look at the following figure, then answer: 1. Liquid ①: 2. Substance ②: 3. Carbon dioxide is collected by upward	gas passe	s throug	h it.	Car





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4	n	
è	ш	

Giza Governorate

Future Generation Language School

Answer the following questions:

	중요를 받는 것	255		5
. A	Complete	the	following	sentences

- 1. The controls the reflex action.
- 2. Carbon dioxide gas is turned into liquid by and and
- 3. From slightly movable joints
- 4. The dendrites are connected to neighbouring neurons composing the
- 5. Oxygen gas is produced through process and consumed in process.
- 6. An object's weight is affected by the distance being away from the of the planet.

[B] Give reasons for :

- Carbon dioxide is collected by upward displacement of air.
- Damage of medulla oblongata causes death.

2. [A] Choose the correct answer:

- Mercury remains in liquid state between°C.
 - a. (39: 357)
- b. (39: -357) c. (-39:357) d. (0:100)
- 2. Newton is almost equal to the weight of an object whose mass is grams.
 - a. 10

- b. 100
- c. 1000
- d. 0.1
- 3. The centers of thinking and memory lie in
 - a. medulla oblongata. b. spinal cord.
 - c. cerebellum.
- d. two cerebral hemispheres.
- 4. The best metal in conducting heat is
 - a. aluminium.
- b. copper.
- c. iron.
- d. mercury.



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الصف السادس الايتدائي

1. Its mass on the Earth.	n. Calculate :
2. Its weight on the moon.	
	*
. [A] Write the scientific term of the following :	52
 A mixture of different gases that surrounds the Earth. 	(
2. It's the main control center in the human body.	(
 An indicator helps us to express the state of the body from the point of hotness and coldness. 	Ĭ
A gas molecule consists of three oxygen atoms.	X s
[B] What happens if ? An iron nail wetted by water is exposed several days to humi 	d air.
2. Touching a very hot surface.	
■ [A] Put (✓) or (≭) and correct the wrong one :	1-11-1-1
The number of cranial nerves in man is 31 pairs.	. (
2. The main idea to make a thermometer is changing mass of	of the mercury
according to the change in the temperature.	(
[B] Mention one importance for :	11
1. Spring scale.	
2. Cerebellum.	





(115)

E 3

[C] Look at the figure, th	en answer the questions :
----------------------------	---------------------------

 Label the figure 	:
--------------------------------------	----------

1		
_	TO SEE THE PROPERTY OF THE PRO	

-		21
2		************************************
233	82	

2.7	
-	
(3)	***************************************
(3)	***************************************
-	

2.	What's	the	importance	of	number	2	1
			(a)				

yord it library

11 Alexandria Governorate

South Alex. Educational Zone

Answer the following questions :

1. [A] Complete the following statements:

- 1. Mass is measured by, where weight is measured by
- 2. The axial skeleton in the man consists of , and and
- 3. The heat is a form of the forms of
- 4. The oxygen gas of the atmosphere is consumed during and and

[B] Compare between:

Points of comparison	Celsius thermometer	Medical thermometer
1. Usage :		
2. Range of scale :		

2. [A] Write the scientific term :

- A bony case that contains brain inside.
- A gas used in its preparation hydrogen peroxide.
- The gas that turns limewater into turbid.
- The flame which is used in cutting and welding metals.
- The product substance from the combination of magnesium and oxygen.

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(.....)

[B] Look at the opposite figu	re , then label the figu	re :]	
①			
②	******************		
③			
7/A 2.00		2	
[A] Choose the correct answ	ver :		
 The gray matter in the s 	spinal cord , its shape	likeletter.	₹G
a. A	b. H	c. F	725
2. Nitrogen molecule cons	sists of nitroge	en atoms.	4 2
a. four	b. three	c. two	95 EI
3. The ribcage in the man	consists ofp	airs of ribs.	22
a. 11	b. 10	c. 12	*6
4. Backbone consists of	vertebrae.		
a. 32	b. 33	c. 23	11
5. Which of the following i	s from slightly movable	e joints ? ·····	
a. Femur.	b. Wrist.	c. Knee.	
6. A catalyst used in prepa	aration of oxygen gas i	in laboratory is	
a. sodium carbonate.	b. copper oxide.	c. manganese	dioxide.
[B] If an object's mass = 30	kg. on the Earth. Cal	culate :	287
1. Its mass on the moon.			
2. Its weight on the Earth.	***************************************		*
26			

4. [A] Join from column (A), what is suitable from column (B):

(A)	(B)
1. Alcohol	a. protects the Earth from harmful radiations. b. is a liquid used in sterilizing of thermometers.
Cranial nerves Restic	c. are 12 pairs of nerves.
4. Ozone	d. are 31 pairs of nerves.
	e. is a bad conductor of heat.

3.

6



[B] Give	reasons for :	88 A	567
1. TI	ne yeast is added to do	ough on making brea	ad.
2. TI	ne heart and lungs are	surrounded by ribca	age.
[C] Cros	ss out the odd word :		
1. H	umerus bone – Shaft bo	ones – Forearm bon	es – Hand bones. ()
2. Tv	vo lower limbs – Skull -	- Backbone – Ribca	ige. ()
12 Ale	exandria Governora	te El-Gon	nrok Educational Zone
Answer the	following questions	*	# 52 T
1. [A] Com	plete the following st	atements :	
	cygen gas is prepared l	by decomposing	in the presence of
2. Th	e ·····is the site of	two bones meeting	
3. Lic	quids by heati	ng and by o	cooling.
	e measurement unit of	mass is, ,	while measurement unit of
[B] Give	reason for each of the	he following :	
1. N	fercury is used in therm	ometers (two point)	•) El
949			
2. T	he damage of the med	ulla oblongata caus	es death.
1977		***************************************	
388			
2. [A] Cho	ose the correct answ	er:	
N (E	ne controls the		ω x* e9
a.	spinal cord	b. cerebellum	c. cerebrum
194 - PR CS46	ewton is equal to the w	eight of body, its ma	ass is
	10 gm.	b. 100 gm.	c. 1000 gm.
(118)	5.E	≅A	5.250



The transfer of the transfer o	h sin unusual	
a. air downward.	b. air upward.	c. water downward.
4. The knee and elbow	F0 E1	
a. immovable.	b. slightly movable.	c. free movable.
[B] What is the important	e of each of the following	g ?
1. A constriction in the	medical thermometer.	v v
2. Cartilages.		
	***************************************	***************************************
[A] Write the scientific ter	rm :	
1. A flame whose tempe	erature reaches to 3500° C	;. (
2. The fastest metal in o	conducting heat.	(
3. A bony case that con	tains brain inside.	(
[B] Problem :		
A 15	the Earth = 30 kg. Calcula	te:
1. Its mass on the moo		
2. Its weight on the Ea	rth.	
3. Its weight on the mo	on.	796 Pg
*******************************	***************************************	
		3: 3)
[A] Correct the underline	5	The supplement productions are now or
8-1	r to sterilize the medical th	÷ *
2. The cerebrum is res	ponsible for the body's bal	ance. (
[B] Compare between the	properties of :	
Points of comparison	Oxygen gas	Carbon dioxide gas
1. Reaction with	***************************************	
magnesium:		
2. Dissolving		***************************************
in water:	***************************************	

coldination of the coldination o

13 Alexandria Governorate

East Alex. Educational Zone

0		
Answ	er the following questions :	
1. [A]	Complete the following statements :	
	Materials are classified according to conducting heat into conductions andconductors.	ors
¥1	2. The measuring unit of weight is, while the measuring unit of mass is	
	3. The scale of medical thermometer starts from °C and ends at °C.	
	4. The central nerves system is composed of and and	
[B]	Give reasons for each of the following :	55
256 25	Carbon dioxide gas is used in extinguishing fires.	
	***************************************	****
	Ozone gas is very important in nature.	-
	***************************************	·•··
2. [A]	Write the scientific term for each of the following :	
	1. The amount of matter in an object.	'
	2. A bony box that contains cavities for eyes, ears and nose. (
	3. A gas that is the most important part in protein. (
	4. A flame is used in cutting and welding metals.	
101	I DEVENT THE STATE OF THE STATE	3
رما	Mention one function for each of the following: 1. Celsius thermometer.	
	O TI	••••
	2. The ribcage.	

3. [A]	Put (√) or (x) in front of each of the following :	
	Cooking pots are made up of plastic. ()
	2. Humerus bone and forearm bones are from the parts of the lower limbs.	
)
	3. The cerebellum is responsible for maintaining the body balance during	73
	movement. ()
(120)		



[B] Correct the underlined words:			44	
 Ozone is composed of two oxy 	gen atoms.		***	(
Carbon dioxide gas is prepared	en mai di militare di dili arconi di sul mente di sul mante di sul mante di sul	n rea	action bet	ween dilute
hydrochloric acid and copper s	sulphate.			(
The liquid used in the medical t	thermometer is alo	coho	ol.	(
[A] Choose the right answer from t	he following :			The state of
1. The myelin sheath covers	*******			40.
a. the axon on the nerve cell.	b. cerebrum.		c. medul	la oblongat
2. The weight of an object on the	Earth's surface is	6 N	ewton, so	its weight o
the moon's surface is	Newton.			5 28
a. 1	b. 6	33	c. 10	
The measuring device of the m	ass is			e General a
a. spring scale.	b. thermometer		c. sensiti	ive balance
①				17
①				\$ @ C
②		angu	age schoo	
③		angu	age schoo	
②	Memphis k	angui	age schoo	
(A) Complete the following statements	Memphis k		M # T	
(A) Complete the following statement of the force by which the body is a	Memphis k		M # T	
(2) (3) (5) (6) (7) (8) (8) (8) (9) (8) (8) (9) (9) (9) (1) (1) (1) (2) (2) (3) (3) (4) (4) (5) (6) (6) (7) (7) (8) (8) (9) (9) (9) (1) (1) (1) (2) (2) (3) (3) (4) (4) (4) (5) (6) (6) (7) (7) (8) (8) (9) (9) (9) (9) (9) (1) (1) (1) (1) (1) (1) (1) (2) (1) (1) (2) (3) (4) (4) (5) (6) (6) (7) (7) (7) (8) (8) (9) (9) (9) (9) (9) (9) (9) (9) (9) (9	Memphis keepstracted to the Eade of	arth is	s called ···	
(A) Complete the following statements of the force by which the body is a	Memphis keepstracted to the Eade of	arth is	s called ···	
(A) Complete the following statement. 1. The force by which the body is a 2. Handles of cooking pots are made 3. The number of spinal nerves is is	Memphis keeps to the Earlie of	arth is	s called ···	
(A) Complete the following statement. 1. The force by which the body is a 2. Handles of cooking pots are made 3. The number of spinal nerves is is	Memphis keeps to the Earlie of	arth is	s called	
(A) Complete the following statement of the force by which the body is a 2. Handles of cooking pots are made 3. The number of spinal nerves is is	Memphis keeps to the Earlie of	arth is	s called	





	[2]			
	1. Newton.	64 310		

	***************************************		*********	** (*)
	2. Temperature.	59		
	**************************************	**************	············	
2. [A] Write the scientific term of each of the following :	-	- 10101	2 IV. T
	1. Materials that don't let heat to pass through.	()
	2. Automatic response of the body to different stimuli.	()
	3. The part of the brain that is responsible for regulating			:00
	the heartbeats.	()
	4. A chemical substance that increases the speed of the react	tion witho	out	
	changing in its quantity and structure.	()
	A device used to measure the temperature of liquids.	()
TE] Give reasons for :			
	1 0110 10000115 101 .			
4	There is a constriction in the medical thermometer.			•••
	### ##################################	es.		***
	There is a constriction in the medical thermometer.	es.		
	There is a constriction in the medical thermometer.	es.		***
	There is a constriction in the medical thermometer. Clear limewater becomes turbid when carbon dioxide pass.	es.		
	 There is a constriction in the medical thermometer. Clear limewater becomes turbid when carbon dioxide pass Put (√) or (x) and correct the wrong one : 	es.	(
	 There is a constriction in the medical thermometer. Clear limewater becomes turbid when carbon dioxide pass Put (√) or (x) and correct the wrong one : 	es.		
	 There is a constriction in the medical thermometer. Clear limewater becomes turbid when carbon dioxide pass Put (√) or (x) and correct the wrong one: The mass of the body changes as its location changes. 	es.	(
	 There is a constriction in the medical thermometer. Clear limewater becomes turbid when carbon dioxide pass Put (√) or (x) and correct the wrong one: The mass of the body changes as its location changes. 		((

(122)



5. Copper is a good conductor of heat.	5. 5. 10.	()
6. Ozone gas is composed of four atoms	of oxygen.	()
[B] Look at the opposite figure, then answ	ver :	8X =
 This apparatus represents the preparation of	Manganese dioxide	Water
[C] If the mass of an object on the Earth is	equal to 60 kg., cal	culate :
 Its weight on the Earth's surface. 		
2. Its weight on the moon's surface.		
3. Its mass on the moon's surface.	# # # # # # # # # # # # # # # # # # #	

[A] What happens when ?		
 Over intaking of the stimulating substar 	nce such as coffee.	
2. Increasing the percentage of carbon di	oxide gas in the atmo:	sphere.
[B] Give one example of each of the follow 1. An immovable joint.	ving :	
Measuring device of small masses.		

123





Gharbia Governorate

East Tanta Educational Zone

Answer the following questions	Answer	the fo	llowing	quest	ions
--------------------------------	--------	--------	---------	-------	------

swer the following questions :	
[A] Complete the following statements :	
The weight of anybody when the distance between the center of the planet as the gravitational force.	
We can use thermometer to measure the temperature of the human body. Oxygen gas is prepared by the decomposition of	in measuring the
as a catalyst.	
4. The neuron consists of two main parts and	Account 1
[B] Give reasons for each of the following:	12 12
When you burn a ball of cleansing wire strongly, its mass.	s increases.
2. The withdrawal of the hand quickly when it suddenly touc	ches a hot surface.
[A] Write the scientific term for each of the following :	
The materials that let heat flow through.	(
2. A chemical substance that remains without any change i	n its quantity and
structure during the chemical reaction.	(
The main control center in the human body.	(
The system that consists of 43 pairs of nerves.	. (
[B] An object whose mass on the Earth equals 12 kg. Calc	ulate :
1. Its weight on the Earth.	
***************************************	***************************************



هذا العمل حصري على موقع ذاكرولي التعليمي ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفخل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com

2. Its weight on the moon.

changing the <u>mass</u> ()
. ()
erted in a cylinder filled with <u>oxygen</u> of the cylinder.
nal cord. ()
2

b. spring scale.
d. double pans scale.
c. copper. d. mercury.
gas.
c. carbon dioxide d. ozone
n
b. spinal cord.
d. two cerebral hemispheres.
es:
TRATE
(125)

coldination par

16 Dakahlia Governorate

Science Inspectorate

Answer the following questions :

1.	[A]	Choose	the	correct	answer	
77.77	100			~~~~.		

- 1. The device of measuring weight is
 - a. one-arm scale.

b. two-arms scale.

c. digital scale.

- d. spring scale.
- 2. Reflex action takes place through the
 - a. medulla oblongata.
- b. spinal cord.
- c. cerebellum.
- d. cerebrum.
- 3. Cooking utensils are provided with handles of
 - a. copper.
- b. wood.
- c. iron.
- d. aluminium.
- 4. Newton equals the weight of an object whose mass is kg.
 - a. 100

- b. 10
- c. 1
- d. 0.1
- 5. The centers of thinking and memory lie in
 - a. medulla oblongata.
- b. spinal cord.
- c. cerebrum.
- d. cerebellum.
- 6. The ribcage in the human body consists of of ribs.
 - a. 10 pairs
- b. 11 pairs
- c. 12 pairs
- d. 13 pairs

[B] Give reasons for :

- 1. There are cartilages between the vertebrae of the backbone.
- 2. Mercury is used in thermometers.
- Oxygen gas is collected by downward displacement of water.

2. [A] Complete the following statements :

- The knee joint is considered fromjoints, while the wrist joint is considered fromjoints.
- 3. The central nervous system consists of and and
- 4. Oxygen atom + oxygen atom =
- 5. conducts heat faster than aluminium.

(126)



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موقع داکرولی التعلیمی

الصف السادس الابتدائي

2. Hydrogen peroxide is	dropped over manganese dioxide.	:
[A] Put (✓) in front of the o	correct statement and (x) in front of false of	ne :
1. The mass of the body of	changes as its location changes.	(
The scale of medical th	nermometer starts from 35°C to 42°C.	(
Cerebellum maintains t	the balance of the body during movement.	(
All materials are good of	conductors of heat.	(
Magnesium combines	with oxygen gas forming a black substance.	(
In the Celsius thermom	neter there is a constriction in the capillary tube	. (
[B] Look at the following fig	gure, then answer :	\$60 PM
三 1/67	each label on the figure.	
- Substance @:	(b)	
- Liquid (b):		ก
2. Mention two uses of th	he evolved gas.	1
***************************************		(a)
The produced gas is n		-
downward displaceme	ent of water. Why?	
[A] Write the scientific term	of each of the following:	
 The gas protects the Ea 	arth from harmful radiation. (*********
A bony box contains bra	ain and cavities for eyes , ears and nose. (
지점 10 TH - SA 145701 - 13 1.5시점을 받아서 기를 다 아니다.	ervous system causes retardation	
of memory and learning.	A 446	
7740 77401 9440 G2 G2	e protein substance that builds up	
4. A gas that composes the	- protein outrotamoo triot banao ap	
our bodies.	(········	·········
our bodies. 5. The basic structure of the structure of t	he nervous system. (
our bodies. 5. The basic structure of the figure of the liquid that is used in	the nervous system. (01
our bodies. 5. The basic structure of the figure of the liquid that is used in the liquid that is used in the liquid that of a body of the liquid that of a body of the liquid that of a body of the liquid that is used in the liquid that i	the nervous system. (
our bodies. 5. The basic structure of the figure of the liquid that is used in	the nervous system. (
our bodies. 5. The basic structure of the figure of the fi	the nervous system. (
our bodies. 5. The basic structure of the figure of the liquid that is used in the liquid that is used in the liquid that is body on the liquid that body on the liqu	the nervous system. (
our bodies. 5. The basic structure of the figure of the fi	the nervous system. (
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17 Ismailia Governorate

Science Inspectorate

Answer t	he	foil	lowing	quest	tions	í
----------	----	------	--------	-------	-------	---

[A] Complete the fo	llowing statements
---------------------	--------------------

- 1. The scale of Celsius thermometer starts from °C and ends at °C.
- The number of vertebrae of the backbone is ----- vertebrae, while the ribcage consists of ----- pairs of ribs.
- Mass is measured by using, while weight is measured by using

[B] Calculate:

If an object's mass = 30 kg. on the Earth:

- 1. Its mass on the moon.
- 2. Its weight on the Earth.

2. [A] Write the scientific term :

[B] Choose from column (B), what suits it in column (A):

(A) (B) a. prevent the friction between vertebrae. 1. Joints is responsible for regulating the involuntary processes. 2. Neuron c. is the building unit of nervous system. 3. Cerebellum d. the location where bones meet in the body. 4. Cartilages e. is rapid combination between element and oxygen. 5. Medulla oblongata f. keeps the balance of human body during 6. Cerebrum movement. g. is responsible for regulating the voluntary movements.

4. ------ 5. ------- 6. -------

د کورولی

(128)

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المعسامسر

موقع ذاكروني التعليمي

الصف السادس الابتدائي

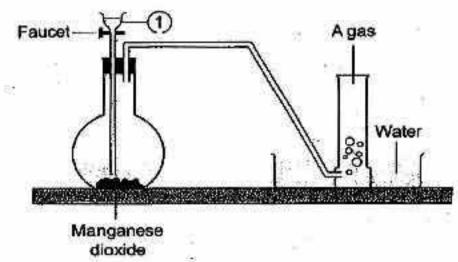
9				27
- ΙΔ1	What	happens	when	2000
- []		Happens		

 The distance between a person in a balloon and the center of the Earth increases.

- 2. Sitting for long times in front of the computer.
- 3. You shake the medical thermometer before using it.
- 4. Knee joints become freely movable joints.

[B] Look at the opposite figure then answer the following questions :

- Mention the name of the gas which is prepared.
- This gas is collected by downword displacement of water. Why?
- 3. Substance no. ① is :
- The function of manganese dioxide is ------



4. [A] Give reasons for :

- 1. Using oxy-acetylene flame in cutting and welding metals.
- The handles of cooking pots are made of plastic, while the cooking pots are made of aluminium.
- 3. The brain is located inside the skull.

[B] Correct the underlined words with right words:

- Nitrogen gas combines with elements forming oxides (oxidation).
- When the exhaled air passes through clear limewater, it forms calcium oxide.

- The magnesium ribbon keeps burning and turns into <u>yellow</u> colour in cylinder which contains carbon dioxide gas.

المحاصد علوم لغات (Notebook) / ۲ ب/ تيرم ۱ (م: ۱۷)





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18 Port Said Governorate

Science Inspectorate

Answer the following question	7S .	-
-------------------------------	------	---

1		Complete	the	following	statements	
	-			.o.o.u.ig	Statement	

 The measurement unit of mass 	s is ······ , wherea	s the measurement unit of
weight is	at the second	2772

- 2. There is a constriction in the thermometer.
- 3. The thermometer is used to measure the water temperature.
- 4. Oxygen gas is prepared in laboratory from in presence of

2. [A] Choose the correct answer :

- - a. oxygen.
- b. nitrogen.
- c. hydrogen.
- d. carbon.
- 2. The joint is the location of meeting of
 - a. two bones.

b. muscle with bone.

c. two muscles.

- d. two cells.
- 3. The best metal in conducting heat is
 - a. aluminium.
- b. copper.
- c. iron.
- d. wood.
- 4. The gas which turn limewater turbid is gas.
 - a. oxygen
- b. carbon dioxide c. nitrogen
- d. ozone

[B] join from column (A), what is suitable from column (B):

(A)	(B)
1. Backbone	a. allow movement in all directions.
2. Freely movable joints	b. consists of 33 vertebrae.
3. Slightly movable joints	c. consists of 12 pairs of ribs.
4. Ribcage	d. allow movement in one direction only.
W-100170017001700170	e. protects the brain.

3. [A] Write the scientific term :

- The center of the main control in human body.
- A gas molecule consists of three atoms of oxygen.

e e controles and

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اله

موقع داکرولی التعلیمی

الصف السادس الابتدائي

7.7 AD	
[B] Correcting the underlined words :	
 The liquid used in medical thermometer is the <u>alcohol</u>. 	(
Nitrogen represents 21 % of the volume of the atmosphere.	(
3. Carbon dioxide gas is essential to form rust.	(
[A] Give reasons for :	88
Carbon dioxide is used in extinguishing (putting off) fires.	
[B] What happens when ?	
There is no oxygen in the atmospheric air.	15
more is no exygen in the atmospheric air.	
[C] If an object's mass = 30 kg. on the Earth. Calculate :	
1. Its weight on the Earth.	
2. Its weight on the moon.	
[D] Study the following figure, then label it : ① ② ③ ③ ④	3—4
Damitta Governorate Science Inspectoro	te
wer the following questions :	
Complete the following sentences :	
. The measurement unit of mass is, whereas the measure weight is	ement unit of
. Oxygen is produced from process and carbon dioxide is process.	produced fror
ANNEL CANDE DE L'ANDROCKET DE L'ANDR	of
As the mass of the planet on which the body exists increases, the the planet increases and of the body increases.	



هذا العمل حصرى على موقع ذاكرولى التعليمي ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com

4. Carbon dioxide is pr	epared in the labora	tory by adding	····· to the powder
5. We use to measure the temper	range and the second of the se	#A 80	·····is used to
6. The peripheral nerve of spinal ne		of of crania	al nerves and
- [A] Write the scientif	ic term of each of t	he following :	
1. Automatic resp	onse of the body to	different stimuli such	as light and heat.
2. Materials that le	et heat flow through.		()
3. The degree of	hotness or coldness	of a body.	()
4. A flame is used	l in cutting and weldi	ing metals.	(
5. A gas is used in	n making soft drinks.		(
	on which leads to ra	ise in the Earth's ter	mperature and
[B] Give reasons for			= 1
1. We must stay a	way from the source	e of pollution.	n •
2. Oxygen is colle	cted by downward d	lisplacement of wate	or.
3. Mercury is used	d in thermometers.	347	8 .
[A] Choose the corre	ct answer :	11 25	5.5 (0)
1. The cerebellum	is responsible for	*******	=
a. thinking.	22	b. the body bala	nce.
c. the reflex action	on.	d. memory.	34 36
2. Myelin sheath su	ırrounds the	n 9	
a. nerve cell's a	con.	b. spinal cord.	
c. cerebrum.		d. cerebellum.	\$ C.
3. When oxygen co		ment, the mass of the	e product is
a. equal to	b. less than	c. more than	d. (a) and (b)
32)			털



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	4 4k- k-l			
a. the spring scale.			- 100 V	
6540 SPC40.59039-787-2050 SPC-748039-849	.d. two-arms	7	• * · · · · · · · · · · · · · · · · · ·	,
Which of the following	ng is from sligh	ntly movable joint	Service International	W. Suzee
a. thigh.	b. wrist.	c. ankle.	#2 0.7250-948	nee.
6. Mercury remains in I	liquid state bet	tween C	°.	¥.
a. (39 : 357)	b. (39: -357	c. (–39 : 35	57) d. (0 : 100)
3] Mention the name of	the organ th	at is responsible	e for :	# ₊
 Controlling the volu 	intary moveme	ents of the body.	0	
Protecting the spinal	al cord.			a 5
Protecting the hear	t and the two l	lungs.		

Protecting the brain	n parts.		39	Ħ
C] If an object's mass e mass on the moon's	and the second product a production of the second		urface. Cal	culate its
OUTS THE STATE OF THE STORY OF STATE OF SHEET STATE OF ST	and the second product a production of the second		urface. Cal	culate its
mass on the moon's	surface ? an	d why?	urface. Cal	culate its
mass on the moon's	surface ? an	d why ? s ?	urface. Cal	culate its
mass on the moon's Name of the factor of th	ollowing case	d why ? s ? are without joints.	urface. Cal	culate its
mass on the moon's	ollowing case	d why ? s ? are without joints.	urface. Cal	culate its
mass on the moon's Name of the second state o	ollowing case human body a	s ? are without joints.	urface. Cal	culate its
mass on the moon's Name of the factor of th	ollowing case human body a	s ? are without joints.	urface. Cal	culate its
Mass on the moon's Nhat happens in the factor of the 1. All the bones of the 2. The over use of stir	surface ? an ollowing case human body a mulating subst	s ? are without joints.	urface. Cal	culate its
mass on the moon's Name of the second start of the second sec	surface ? an ollowing case human body a mulating subst	s ? are without joints. ances. ter of the Earth.		
Mass on the moon's Nathappens in the form 1. All the bones of the 2. The over use of stir 3. A body moves away	surface ? an ollowing case human body a mulating subst	s ? are without joints. ances. ter of the Earth.		ous plants.
Mass on the moon's N What happens in the feature of the start of the	ollowing case human body a nulating subst	s ? are without joints. ances. of air in the roots	of legumine	ous plants.
Mass on the moon's N What happens in the feature of the start of the section of	ollowing case human body a mulating subst y from the cen ed words: ia fix oxygen air passes thro	s ? are without joints. ances. of air in the roots	of legumine	ous plants.
Mass on the moon's N What happens in the feature of the start of the	ollowing case human body a mulating subst ed words: ia fix oxygen air passes thro e called calciu	s? are without joints. ances. ter of the Earth. of air in the roots ough clear limewa	of legumine	ous plants. (
Mass on the moon's Name of the second start of the second start of the second start of the second s	ollowing case human body a mulating subst ed words: ia fix oxygen air passes thro e called calciu	s? are without joints. ances. ter of the Earth. of air in the roots ough clear limewa	of legumine	ous plants. (



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Fayoum Governorate

Science Supervision for Governmental Language School

Answer	the	follow	ving	questions	:
--------	-----	--------	------	-----------	---

Answer the following questions :	
1. [A] Complete the following :	
Oxygen is produced from process and carbon of from process.	lioxide produced
2. The number of cranial nerves is and the number nerves is	r of spinal
3. The medical thermometer is graduated from to	
 The is the measurement unit of mass, whereas measurement unit of weight. 	s the is the
[B] What would happen in the following cases?	S Miles
There is no oxygen in the atmospheric air.	
2. The percentage of carbon dioxide in the air increases.	
2. [A] Correct the underlined words in the following statemen	nts :
 Copper from substances which the heat cannot pass thro 	ugh it. ()
2. Nitrogen gas is used in putting off fires.	()
 The nodular bacteria fix air <u>oxygen</u> in roots of legumino beans and clover. 	ous plants such as ()
4. Mass is the force of the Earth's gravity to an object.	()
[B] Mention one function for each of the following	
1. Skull.	8 Z
2. Cartilages between the vertebrae of the backbone.	

3. [A] Choose the correct answer :

- 1. Respiration and combustion processes consume gas.
 - a. oxygen
- b. nitrogen
- c. argon
- d. carbon dioxide



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الصف السادس الايتدائي

8 10	2750	the body on the Ea ace is	rth's surface is 6 New	ton, so its weight on
	a. 1 kg.	b. 1 Newton.	c. 6 kg.	d. 6 Newton.
	PERMIT DE LA CONTRACTOR	The state of the s	lene in welding metals	The state of the second
	a. oxygen	b. nitrogen	c. hydrogen	d. carbon dioxide
	CROS VARIENCES AS ASSESS SO	ollowing is from join		*14
	a. Femur.	b. Shaft.	c. Pelvic.	d. Knee.
ſΒ] Look at figure,	then answer ·		
M	574 6700 CB	e of		
	- Write the name			
		······		
	②		******	1 2
			- W	
4. [A] Write the scient	ific term of each o	f the following state	ments :
	1. A tool is used	to measure body w	eight.	()
	2. Materials that	let heat flow throug	h.	()
	3. A system resp	onsible for integration	on and coordination b	etween systems of
	the human bo	dy.	%	()
	4. The location o	f bones meet and a	llow moving.	()
(B] Give reasons fo	or:	93	10.10
	 Yeast is adde 	d to the dough on n	naking bread.	4
/64			ing of cooking pans.	
$\langle 21 \rangle$	El-Minia Go	vernorate	St. Mark and El To	awfik Schools
Answ	er the following o	questions :		
1. [A]	Choose the corr	ect answer :		
	1nearl	y equals the mass o	of one paper clip.	Yi.
	a. Kilogram	b. Gram	c. Newton	d. Ton
	2. Which of the fe	ollowing is faster in	conducting heat? ····	**************************************
	a. Copper.	b. Iron.	c. Aluminium.	d. Glass.
				(135)



هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره فى أى مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com



	3. Oxygen is pro	duced from pro	cess.	
ĕ	a. burning	b. oxidation	c. photosynthesis	d. respiration
	4. The cerebellu	m is responsible for	XXXXXXX (III	*
	a. thinking.	b. the body balance.	c. the reflex action.	d. memory.
[B]	Problem :			2 ⁷⁸
	An object whose	mass on the Earth equa	als 6 kg. Calculate its	weight on both
	surfaces of the l	Earth and the moon.		**
77				
	******************************	************************************		
2. [A]	Complete the fo	llowing statements :		4
na Tibe	₹2	are some usage	s of good heat condu	ctors
		s prepared by the decom	100	
	of	propared by and accom-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	and produined
	3. Mass is meas	ured byscale, v	whereas weight is mea	asured by
	scale).		
	4 contr	ols the reflex action (refle	exes).	85
		ge of carbon dioxide gas ymbol	in the atmospheric ai	r is
[B]	Give reasons fo	r the following :	(0)	1,649
	1. Brain is locate	d in the skull.	E 34 3	
	2. Carbon dioxide	gas is used in extinguishi	ng some fires.	**
	3. The handles of	cooking utensils are made	e of plastic or wood.	
]. [A]	Write the scienti	fic term of each of the	following :	- FE
	1. The force with	which a body is attracte	d to the Earth.	()
	2. A rapid union heat and light	between oxygen and an	element producing	()
	3. The building u	nit of the nervous system	n.	()
	4. The area of tw	o bones meeting.		()
136				
				88



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[B] Compare between the medica	I thermometer and the	e Celsius thermometer :
--------------------------------	-----------------------	-------------------------

Points of comparison	Medical thermometer	Celsius thermometer
1. Usage :		
2. Structure :		
3. Used liquid :		
4. Scale :		

4. [A] Correct the underlined wrong words in the following statements	4.	[A]	Correct	the	underlined	wrong	words	in the	following	statements	:
---	----	-----	---------	-----	------------	-------	-------	--------	-----------	------------	---

- Ozone molecule is composed of two hydrogen atoms and one oxygen atom.

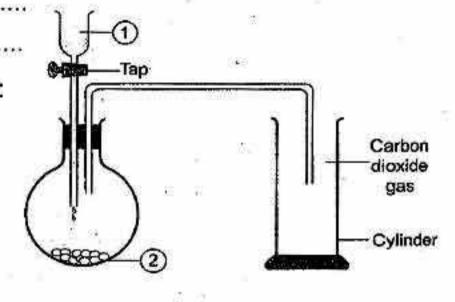
 (------)
- 3. There are 12 pairs of spinal nerves and 31 pairs of cranial nerves.

[B] Look at the following figure, then answer:

- *1. Write what represents each label:
 - Liquid ① :-
- 2. Mention three uses of carbon dioxide gas :

.....

Carbon dioxide is collected by upward displacement of air. Why?



22 Assiut Governorate

Science Inspectorate

Answer the following questions:

1. Complete the following statements :

- 1. The measurement unit of mass is or , whereas the measurement unit of weight is
- 2. The nervous system divided into system and system.
- 3. The graduation of medical thermometer begins from 35°C and ends at °C.

المحاصد علوم لغات (Notebook) / ۲ ب/ تيرم ۱ (م: ۱۸)





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2. [A] Put (✓) or (ϫ) in fi	ont of the following:			
1. The spring scale	is used for measuring weight.		()
2. The mass of bod	y changes as its location chang	es.	()
Celsius thermom of human being.	eter is used to measure the tem	perature	()
4. The spinal cord is	s responsible for the reflexes.		()
[B] Give reasons for :			W.	5.5 5.5
A THE CONTRACTOR OF THE PROPERTY OF THE PROPER	s used in extinguishing fires.	$\overline{\mathbf{v}}_{i}$		
			•••••	
2. The balance scal	le should be placed horizontally	on a stable surface	•	
	in			
3. [A] Write the scientific	term of each of the following	statements :	F.C.	
1957. FA	s in the atmosphere and protec	V	rmful	()
radiations coming	from the Sun.	. (.,	.)
2. Materials that let h	neat flow through.	- (.)
3. The building unit of	of nervous system.	(·)
4. They are 12 pairs	of nervous emerging from the b	orain. (. }
[B] Mention the function	on of the following :			
1. The flame oxy-ac	etylene.	· · · · · · · · · · · · · · · · · · ·		
***************************************				••••
Medulla ablongat	a.		- E	
				••••
. [A] Choose the correct	answer:	*		
	ponsible for	88 W		
a. thinking.	b. balance of the body.	c. the reflex ac	ction.	22
TIME WAS TO THE TOTAL TO THE TIME TO THE T	nts of the Earth's atmos	sphere.	*	
a. 21 %	b. 78 %	c. 0.03 %		
(B) If an object whose i	mass on the Earth equals 30 k	ko. Calculate :	#1	
1. Its weight on the	Earth.		50 g	
2. Its weight on the	moon.		6.00	(305V)
***************************************				***
Its mass on the m	noon.		G	
	***************************************	***************************************		***
138				



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[C] Look a ① ② ③		osite figure, then lab		3
2.50001 10000	27-27-10 V3	ernorate	Science Inspec	ctorate
Answer the fo		uestions : lowing statement :		
		red by, where	eas weight is meas	sured by
2. The ends	scale of th	e medical thermomete ··· °C.	r starts from	····· °C and
	number of es is	spinal nerves is pairs.	····· pairs and the n	umber of cranial
[B] Choos	e the corr	ect answer :	Ť	524 TV
1. An o	bject whose	e weight is 20 Newton o	n the Earth, its mas	s is equal to
a. 2	kg.	b. 10 kg.	c. 20 kg.	d. 200 kg.
2. Hear	t insulators	are used in making a	of the following e	xcept
a, ha	andle of iro	n.	b. cooking pots	X : = 2
c. W	oolen cloth	es.	d. heavy blanke	ets.
/t G	ch of the fo	llowing gases have gr	eat percentage in t	the atmospheric
a. O	xygen.	b. Carbon dioxide.	c. Nitrogen.	d. Water vapour.
2. [A] Write t	he scienti	fic term of each of th	e following state	ments :
		ich a body is attracted		()
2. A ga	s used to p	out off fires.		()
CHARACTER DE CONCE		nsible for the reflex ac	ction.	()
				139



هذا العمل حصرى على موقع ذاكرولى التعليمي ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com



3. Cerebellum. 1. [A] Correct the underlined wrong words in the following statements: 1. The measuring unit of mass is Newton. 2. Ozone molecule consists of four oxygen atoms. 3. Nitrogen gas results from the combustion of organic substances. 4. Oxygen gas is called azote which means lifeless. [B] Look at the opposite figure, then answer: 1. Label the numbered bones. ① ② ③ 3. 2. This figure represents the bones of limbs. 3. Aluminium is a bad conductor of heat. 4. CO₂ is heavier than air, so it is replaced the air. 5. Legumes such as clover benefit from the nitrogen in the air. 6. Manganese dioxide is used as a catalyst during preparation of oxygen. ([B] Give reasons for: 1. The brain is located inside the skull. 2. Oxygen gas is collected by downward displacement of water during its preparation in the laboratory.	2. Oxy-acetylene flame.	
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① ② ② ② ② ② ② ② ② ② ② ② ② ② ② ② ② ② ② ②		
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(24)	Luxor Governora	te (Lo	exor Educational Z	one
Answer	the following question	s:	Same and the same	1)
1. [A] C	omplete the following s	statements :	¥.	n s ^e
30-400 W 1881 N	. From the substances wi		uctors of heat	and
	2. The mass is measured byscale.	Ce: \$2		(#
3	I. The number of the cran nerves is	ial nerves is	and the number	of the spinal
4	anda	re the sources of	carbon dioxide.	
[B] N	lention the function of	each of the follow	wing :	W 25
[*] 1	. Celsius thermometer.	1	•	29
	***************************************		***************************************	
	•••••			
2	. Cerebellum.			* = =
2. [A] C	hoose the correct answ	ver :	***************************************	
1	. The gas which turns cle	ar limewater turbi	d isgas.	181
	a. oxygen	b. nitrogen	c. carbon dioxide	d. ozone
2	. The centers of thinking	and memory lie in		41
	 a. medulla oblongata. 	b. spinal cord.		
	c. cerebellum.	d. two cerebral	hemispheres.	
3	. If the weight of a body is	s 200 Newton, its	mass equals	19 12
	a. 2 kg.	b. 20 kg.	c. 200 kg.	d. 2000 kg.
4	. The liquid used in the m	anufacture of the	thermometer is	
	 a. hydrogen peroxide. 	b. water.	c. mercury.	d. alcohol.
[B] G	ive reasons for :		**	
1.	Air is the main source of	f nitrogen.		
	***************************************		***************************************	·····

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Staying away from the tranquilizers and stimulants.	
[A] Write the scientific term of each of the following statem	ents:
The substances that allow heat to pass through.	<i>t</i>
2. A bony case that contains brain inside.	(
An organ responsible for the reflex actions of the body.	
A flame is used in cutting and welding metals.	(
[B] If a body its mass 60 kg. Calculate its weight on the Ear also calculate its weight on the moon's surface ?	th's surface an
[A] Correct the following statements :	
 The axon of nerve cell is surrounded by gelatinous layer. 	85 ₁₋₃ = 20 ¹ / ₁₋₃
2. The weight is constant amount and changes as the location	on changes.
 When a glowing magnesium ribbon is placed in a jar contaged gas, a black substance is formed. 	aining oxygen
4. The maximum and minimum graduation of the clinical the	rmometer is
between (32 : 45) Celsius degrees.	
B] What would happen in the following cases :	
An iron nail wetted by water is exposed several days to h	umid air.
2. The percentage of carbon dioxide gas increases in the at	mospheric air.
25)	



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25 South Sinai Governorate

Tur Sinai Educational Directorate

Answer	the	following	questions	:
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nswer the following questions :	51	
. [A] Complete the following statements :		
1. Mass is a constant value and it is not affected by changing		
2. From the functions of the lower limbs)):
3. The graduation of medical thermometer starts from to		
4. The axon of nerve cell is surrounded by		
5. An object's weight depends on and and	-	
[B] Write one function of :	77.	ij
1. The ribcage.	e e	a.
2. Celsius thermometer.	\$4.1 i-1	
3. Balance scale.	E	***(**)
4. Oxy-acetylene flame.		
■ [A] Put (✓) in front of the correct statements and (寒) in front of fal	lse one	
1. Iron is the best heat conductor.	()
2. Oxygen gas occupies 0.03 % of the atmospheric air components.	()
3. The skull has immovable joints.	C)
4. A black substance is formed when oxygen reacts with a lighted		
magnesium ribbon.	()
Cartilages prevent the friction between the bones of vertebrae.	. ()
The outer surface of the hemispheres is called cerebral cortex and a white matter.	l it is)
[B] If the object's mass = 3 kg. on the Earth surface. Calculate :		
1. Its mass on the moon.		

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	3. Its weight on the moor	n. a	*	
[C]	Give reasons for :		58	,
	1. Cooking utensils made	e of aluminium.		92.1 92.1
	2. Oxygen gas is collecte	ed by downward displacen	nent of water.	30
	3. Yeast is added to doug	gh.		
[A]	Choose the correct ans	swer:		3.
	1. The used liquid in med	dical thermometer is		M7#3
	a. water.	b. alcohol.	c. mercury.	
	2. We can extinguish fire	usinggas.		- 32
	a. oxygen	b. nitrogen	c. carbon dioxide	
	3. The device of measur	ing weight is	**	
	a. two-arms scale.	b. spring scale.	c. digital scale.	
	4 controls the r	eflex actions.	and the second	
	a. Spinal cord	b. Cerebellum	c. Cerebrum	¥0.
	5. Respiration and comb	ustion processes consum	egas.	
	a. oxygen	b. nitrogen	c. carbon dioxide	
	6. Which of the following is	s responsible for keeping the	body balance?	
	a. Spinal cord.	b. Medulla oblongata.	c. Cerebellum.	ž.
[B]	What happens if ?		40	
	Damage of medulla ob	olongata.		
	2. The percentage of car	bon dioxide gas in air incre	eases.	
	2. There is no constriction	above the mercury bulb in	the medical thems	

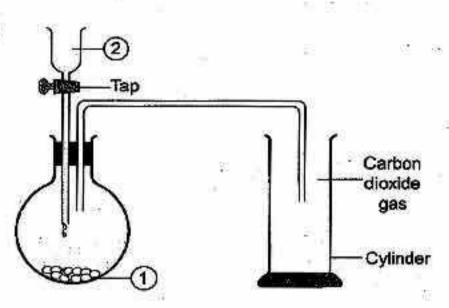
(144)



هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره في أي مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com

[C] Look at the following figure, then answer:

- 1. Substance number ① is ······
- 2. Liquid number ② is
- From the properties of the evolved gas is ------



4. [A] Write the scientific term of each of the following statements :

- A gas is used by legumes in formation of their proteins.

 (------)
- Substances are formed when iron exposed to the humid air for 3 days.
- 4. Materials that do not let heat flow through. (..............................)
- 5. The location at which bones meet each other. (..............................)
- 6. A gas that turns clear limewater into milky.

[B] Join from column (A), what is suitable to column (B):

(A)	(B)
 The backbone Ozone gas Oxygen gas Nitrogen gas Slightly movable joints Freely movable joints 	 a. they allow movement in one direction only. b. they allow movement in all directions. c. consists of 33 vertebrae. d. hydrogen peroxide is used in its preparation. e. protects the brain. f. protects the Earth from harmful radiation. g. it represents 78 % of the volume of the atmospheric air.

المحاصد علوم لغات (Notebook) / ۲ ب/ تيرم ۱ (م: ١٩)





هذا العمل حصرى على موقع ذاكرولى التعليمى ولا يسمح بنشره فى أى مواقع أخرى لمزيد من أعمالنا تفضل بزيارة موقعنا على الانترنت https:\\www.zakrooly.com

5.

- cartilages vertebrae cerebral cortex.

the skull - the backbone.

Guide Answers of Final Exams

my

- skeletal.
- [A] 1. All the involuntary processes of the body such as heartbeats will be disturbed and causes death.
- Muscles are not fixed with bones, so the body cannot move.
- [B] 1. Lower limbs in human
- called axon terminals.
- are involuntary muscles

- [A] 1. Due to the reflex action made by the spinal cord.
- 3. Because it allows the movement in all 2. To provent bone diseases such as osteomalacia and rickets.
- [B] 1. Spinal cord. directions.
- Structure of the brain.

2, - Skull.

- bones of lower limbs.
- Freely movable joints
- Spinal cord

4. Joints

2. The brain.

- ≥ 🕝
- Medulla obiongata

Definition: They are nerves that emerge from that emerge from the spinal cord.
--

a.
壐
-
7
Ē
킃
ž
Š

2. Forearm.

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8 3. Hand.





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داك رواله التعليمي ويسمح بمشاركته فقط ولا يسمح بتداوله على الانترنت

2+2-8



موقع داکرولی التحلیمی

الصف السادس الابتدائي

of liquids.

4. white.

Cairo Governorate

-

- (A) 1. Newton kilogram (or gram). good. oxygen.
- (B) 1. Due to the formation of calcium carbonate which doesn't dissolve in
- Because the ratio of oxygen gas decreases when we rise above the Earth's surface.
- (A) 1. Neuron.

2. Mass.

Oxygen ges.

- The brain.
- Spinal cord.
- (B) 1. It is used to measure the weight of 2. It is used to measure the temperature objects.
- 3. It protects the Earth from harmful radiation coming from the Sun.
- (A) 1. (X) 4 (× 9 P.
- (B) 1. The nervous system will be exhausted. The temperature of Earth will increase 9. 9. 3 X
- and living organisms will suffocate. 2. c. 33
- (A) 1. c. Water.
- 5. c. water & oxygen gas. a. shoulder. 4. c. 200 gm
- Capillary tube
- (B)

 Mercury bulb.

2 Thick glass tube Giza Governorate

- (A) 1. b. wood. 2. b. Nitrogen.
- b. slightly movable.
- b. liquid volume. 6. a. 2 Newton.
- 5. c. 12
- (B) 1. Legumes such as clover, peas and soybeans can't produce proteins in
- Limewater turns into milky due to the presence of carbon dioxide in the the absence of soil bacteria.

د اک سرولی

التعليمي ويسمح بمشاركته فقط ولا يسمح بتداوله على الانترنت

2+2-8

6

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- 2 (A) 1.1
- oxygen.balance.
- oerebrum.stainless steel. energy.
- B

of heat	of heat
ey are materials	They are materials
at let heat flow	that don't let heat flow
rough.	through.

- (A) 1. Temperature.
 3. Neuron.
- Tendons.
 Weight.
 Thermometer.
- (B) 1. Because medulla oblongata controls 5. ozone gas.

all the involuntary processes such as

- Because carbon dioxide doesn't burn and doesn't help in burning. heartbeats.
- (A) 1. Mass. 3. fatty.
- 4. below
- Manganes dioxide.
- 6. mercury.
- (B) 1. dilute hydrochloric acid. calcium carbonate.

8 Alexandria Governorate

- (A) 1. balance scale spring scale. The axon – axon terminals.
- increases increasing.
- dilute hydrochloric acid calcium carbonate.
- 5. Zero* 100°
- (B) 1. Limewater.
- Blood vessels muscles
- Magnesium oxide.
- (A) 1. Cerebellum. 3. Joints. Temperature.Nitrogen.
- (B) 1. manganese dioxide. 3. Aluminium
- 4. knee.
- (A) 1. b. 1 kg. c. three similar atoms
- 3. b. oxygen.
- d. the two cerebral hemispheres.
- (B) 1. To remove oxygen gas from the atmospheric air by combining with it.

- To protect the heart and the lungs Because wood doesn't allow heat to pass through as it is bad conductor of heat.
- Because the volume of liquids contract by as liquids expand by heating and change by changing the temperature cooling.
- (A) 1. mercury. constriction going back to the bulb quickly. to prevent mercury from 2. capillary tube
- 4. 35 42
- (B) 1. 30 kg. 2. Its weight on the Earth = Its mass × 10 $= 30 \times 10$

0

- its weight on the moon = Its weight on the Earth x } = 300 Newton

 $=300 \times \frac{1}{6} = 50$ Newton

It consists of the skull, the backbone and the limbs and the bone the lower limbs.	Axial skeleton
It consists of the bones of the upper limbs and the bones of the lower limbs.	Appendicular skeleton

Kalyoubia Governorate

- 0 (A) 1. c. 1. 3. a. oxygen. 2. d. glass and wood.
- b. Blinking when something gets close to the eye.
- (B) 1. To prevent mercury from going back quickly to the mercury bulb in order to read The measurement easily.
- 2. To prevent bone diseases such as To avoid train accidents, where iron osteomalacia and ricket. expands and twists by heat. is a good conductor of heat that
- (A) 1. Nervous system.

To protect the heart and the lungs

- 2. Nitrogen.
- Medical thermometer. 3. Joints
- (B) 1. It keeps the balance of the body

- during movement.
- 2. They fix the muscles with bones

It is used to measure the weight of

الصف السادس

Guide Answers of Final Exams

- It protects the Earth from harmful radiation coming from the Sun.
- (A) 1. A white substance is produced.
- It causes osteoporosis and may cause We can't make handles of cooking
- Liquefled nitrogen is produced that is clothes that keep us warm in winter. pots and also we can't make heavy used in cooling.

Points of

2. Weasuring device :	1. Measuring unit:	comparison
Measuring Balance scale – device: Sensitive two arms scale – one arm digital scale – one arm scale with a pointer.	1. Measuring Kilogram or gram. unit:	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NAMED IN COLUMN TRANSPORT NAMED IN COLUMN
Spring scale	Newton	

(A) 1. (x) 2.3 3. (×) 4. (×)

محرور

Calcium carbonate.

-4-30)

- It is used in making soft drinks Carbon dioxide.
- Sharkia Governorate

- ♠ (A) 1. 12 paris 31 paris
- photosynthesis burning
- higher lower.
- 5. The brain skull gravity – weight.
- (B) 1. To avoid train accidents, where iron is good conductor of heat that expands and twists by heat.
- Because it protect the Earth from harmful radiation coming from the Sun
- (A) 1. Atmospheric air. Tendons. 2. Heat insulators Carbon dioxide

5. Neuron.





- (B) 1. a. It is good conductor of heat b. It is a regular expanding material
- 2. (). Cell body.
- Myelin sheath.
- Axon terminals
- (A) 1. It dissociates in the presence of manganese dioxide into oxygen gas and water.
- 2. It is used to measure the weight of objects.
- 3. It is used to measure the temperature of liquids.
- 5. c. O₂

(B) 1. b. thigh.

3. c. copper.

2. b. temperature 4. c. 12

- (A) 1. carbon dioxide. medical thermometer.
- increases.
- Medulia obiongata
- 5. lifeless gas.
- (B) 1. Weight on Earth = Mass × 10
- Weight on moon = weight on Earth x = 6 x 10 = 60 Newton. = 60 × = 10 Newton.

Menofia Governorate

(A) 1. d. Spring.

2. d. mercury

- a. Calcium carbonate. 5. d. Plastic. 3. c. Copper 4. d. knee.
- (B) 1. This causes osteoporosis and may cause death.
- Train accidents will occur
- (A) 1. Newton.
- Oxy-acetylene flame.
- Temperature. 4. Nitrogen.
- Global warming.
- Medulla oblongata.
- (B) 1. Its mass on the Earth = 30 kg.
- 2. Its weight on the Earth = Its Mass x 10 = 30 × 10 = 300 Newton

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3. Its weight on the moon

cic Month

2

= 300 × 1 = 50 Newton. = It weight on Earth x }

- (A) 1. gray.
- 3. Carbon dioxide 4. cerebrum. mercury
- 5. oxygen.
- 6. decreases
- (B) 1. Neuron. 2. (i). Dendrites Cytoplasm
- 3 Axon.
- (A) 1. heat conductors heat insulators

2 (- 39°C) - (357°C)

- pressure cooling
- 4. 12 31
- burning oxidation.
- 6. spinal cord keeping the balance of the body during movement.
- (B) 1. To prevent the leakage of heat.
- Because it causes relative constancy temperature changes. of the volume of car tires when the

Gharbia Governorate

- (A) 1. 35-42
- the brainal the spinal cord
- volume temperature.
- axygen carbon dioxide.
- balance scale spring scale.
- (B) 1. Because they are good conductors of heat Because nitrogen is an inactive element.
- Due to removal of forests and burning large amount of fuel.
- (A) 1. Ozone gas.
- Celsius thermometer.
- Appendicular skeleton.
- Heat energy.
- Acetylene gas.
- (B) 1. Weight on Earth = mass x 10 = 30 × 10 = 300 Newton.
- 2. Weight on moon = Weight on Earth × &
- Its mass on the moon = 30 kg = 300 × = 50 Newton
- (A) 1. c. sleepless.
- a. carbon dioxide
- 3. c. 71 Newton.
- b. gives limited extent to measure temperature.
- a. magnesium oxide and coal

ويسمح بمشاركته فقط ولا يسمح بتداوله على الانترنت

التعليمي

2+2-8

- (B) 1. It causes poisoning to the person as toxic substance.
- The withdrawal of your hand will occur quickly.
- 3. Train accidents will occur.
- (A) 1. Cerebellum. 3. two. 4. Iron. Nitrogen gas.

calcium carbonate.

- (B)

 Cell body. ② Axon
- . Axon terminals.

Dakahlia Governorate

- (A) 1. thermometer.
- hydrogen peroxide. the brain – the spinal cord
- 4. 5 kg. 5. fractures
- (B) 1. It is used to measure the temperature 2. It is used in refrigeration (cooling). of liquids.
- 3. It removes oxygen gas from atmospheric air by combining with it.
- 2 (A) 1. Mass.
- Involuntary muscles
 Carbon dioxide.
- Medulla oblongata.
- Oxygen gas.
- (B) 1. Because it is good conductor of heat To prevent friction between bones
- 3. Because it causes relative constancy (vertebrae) during movement. temperature of the volume of car tires when the changes.
- (A) 1. d. mercury. 3. a. scarcely. b. calcium carbonate. 4. d. 1 Newton 2. d. spinal cord.
- (B) 1. Nitrogen oxide will produce. 2. Mercury will return back quickly measurement correctly. to the bulb and we can't read the
- The body can't move.
- **9 2 3** 5 E 6. (x)
- (B) 1. Stay away from addiction. Doing physical exercises

Ismailia Governorate

الصف السادس

Guide Answers of Final Exams

(A) 1. b. 100 5. c. nitrogen. b. burning. 4. c. Copper. 2. d. skull joints

(B) 1. The mass of rock = 300 gm = 1000 = 0.3 kg.

The weight of the rock By changing the place, the mass of the rock will not change while its = mass (kg.) × 10 = 0.3 × 10 = 3 Newton

(A) 1. (X) 3 3 5. (× 6. (×) 3. (×)

weight will change.

- (B) 1. Magnesium ribbon keeps burning for The withdrawal of your hand will occur a short time producing magnesium carbon which is a black substance. oxide which is a white substance and
- (A) 1. Involuntary muscles
- Heat insulators.

Care

- Oxy-acetylene flame.
- (B) 1. It produces carbon dioxide during . The brain fermentation which makes bread

A1-30)

- 2. It protect the Earth from harmful radiation that come from the Sun. porous and tasty.
- (C) 1. Medical thermometer.
- 2. (1) Capillary tube.
- Transparent thick glass tube Constriction.
- (A) 1. balance spring
- green plants photosynthesis.
- 3. energy high.
- tendons cartilages
- 5. 12 pairs 31 pairs
- (B) 1. To keep our bodies warm because woolen clothes are bad conductors of
- To protect them from rusting.To keep the nervous system healthy.







Suez Governorate

- (A) 1. good. 8 4. 0.03 % - CO₂
 5. cerebellum - medulla oblongata 2. place. 3. energy.
- Ø(A) 1. (x) 4. (x) 91 P. S X 6. (x x)
- (B) 1. Because this increases the percentage of carbon dioxide gas.
- Because aluminium is a good conductor of heat, while plastic is a bad conductor of heat.
- (A) 1. a. oxygen. b. oxygen and water.
 b. O₂ 3. c. 12 4. b. cerebellum. 2. b. 1 Newton.
- (B) The weight on the Earth = mass x 10 = 10 × 10 = 100 Newton
- (A) 1. Medical thermometer.
- O Mercury bulb. ② Constriction.
- Capillary tube.
- (B) 1. different rates. Carbon dioxide
- 3. three. Tendons.

Port Said Governorate

- (A) 1. weight Newton.
- bad handles of cooking pots
- nitrogen oxygen
- 4. 35 10 parts
- Skull backbone.
- Carbon dioxide calcium carbonate.
- (B) Medical thermometer only has a going back quickly to the bulb, so we constriction to prevent mercury from can read the measurement easily.
- (A) 1. Mercury. 3. volume. 2. Ozone.

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- (B) 1. Weight on Earth = Mass x 10 300 = Mass x 10
- 4. cerebrum
- Mass = 300 = 30 kg

1

- 2. Weight on Moon = 1 × Weight on Earth $=\frac{1}{6} \times 300 = 50$ Newton
- (C) 1. Due to the formation of ammonia gas which has a pungent smell.
- To prevent friction between vertebrae (bones) during motion.
- (A) 1. b. fertilizers. 3. c. trunk. 2. a. decrease
- 0

4. a. heavier than air

Their numbers: 12 pairs	The place where they emerge from :	Points of comparison
12 pairs.	They They err emerge from from the the brain. Spinal co	Cranial nerves
31 pairs.	They emerge from the spinal cord.	Spinal nerves

- (C) 1. The mass of the cleansing wire will Increases, because it combines with oxygen.
- 2. We can't hold the kettle, because copper is a good conductor of heat.
- (A) 1. Carbon dioxide gas. 3. Joints. 4. Oxygen gas Temperature

(B) It is used to measure the mass of

objects.

- (C) 1. ① Cell body. ② Dendrites. Nucleus.
 Axon.
- neuron.

12 Damietta Governorate

- (A) 1. Celsius thermometer medical thermometer
- axygen hydrogen.
- 3. axial skeleton appendicular skeleton.
- balance scale Newton
- (B) 1. The knee joint ...
- 2. ... its weight on moon's surface is 10 Newton.
- 3. Copper conducts heat faster than aluminium and iron.
- 4. ... by absorbing the ultraviolet radiation ...

- ② (A) 1. c. glass and wood.

(A) 1. c. calcium hydroxide

c. blinking when something gets close

(B) 1. The nervous as they lead to nervous tension and affect the heartbeats. system will be harmed

3. a. volume.

to the eye.

4. b. 100 gm.

The temperature of the Earth will suffocate. increase and living organisms will

(B) 1. Because oxygen scarcely dissolves in

water.

2. Because wood and plastic are bad

conductors of heat.

(A) 1. Mass.

Reflex action.

0

Points of

Immovable

joints

movable joints

Freely

- (A) 1. Because wood and plastic are bad conductors of heat, while aluminium is good conductor of heat.

Example:

the air. the hot copper remove oxygen from absorbs carbon dioxide from air, while

(A) 1. fissure - nerve fibres.

the skull. the bones of Joints between

nitrogen gas – azote.

depends on its mass, so the weight of any object will change from a planet to another.

(B) 1. mercury.

2. three.

3. muscle.

4.35-42

weight.

AL-30)

3. Cartilages.

calcium carbonate

- to the bulb quickly, so we can read the measurement easily.
- 2. They contain the centers of thinking

2 Kafr El-She ikh Governorate

- (A) 1. Carbon dioxide gas
- 2. Mass.
- Appendicular skeleton.
- Temperature.
- (B) 1. spring scale weight of objects.2. ribcage (ribs) protect the heart
- the lungs. - protect the heart and

c. Daniel Rutherford.

(C) 1. It acts as a catalyst during preparation

2. It keeps the balance of the body

during movement.

الصف السادس الابتد

Guide Answers of Final Exams

- 3. a. spinal Nerves.
- a. calcium carbonate.
- 5. c. the spring scale.
- 6. a. Tendons.

- Oxygen.
- Involuntary muscles.
- Temperature.
- Oxy-acetylene flame.

Definition: comparison

They are the

oints that

don't allow any

that allow movement in

all directions.

Shoulder joint

LOS C

the joints They are

movement.

- (B) 1. neuron. 2. O Axon.
- Dendrites. Nucleus
- 2. Because potassium hydroxide
- 3. Because the gravity of a planet
- (B) 1. It prevents mercury from going back

(A) 1. b

20

3. 8

(B) 1. (S)

2.(×)

3.(×)

and memory. (C) 1. Neuron.

¥ Beheira Governorate

O Axon terminals

@ Axon.

- (A) 1. hydrogen peroxide manganese dioxide.
- 2. 33 31
- Celsius thermometer medical thermometer.
- the brain the skull.
 0°C 100°C



6



التعليمي ويسمح بمشاركته فقط ولا يسمح بتداوله على الانترنت

2+2-

object.

of matter in an The amount

force by which a

The gravitational

body is attracted

(A) 1. b. carbon.

b. Nitrogen.

a. nerve cell axon.

3. c. Copper. 5. b. 100

(B) 1. Because it gives relative constancy

to the volume of car tires when the

(B) 1. It is used in welding and cutting

metals.

2. It prevent mercury to return back

quickly to the mercury bulb, so we can

read the measurement easily.

comparison

Points of

Mass

Weight

0

للقول	طاسي	ڪٽاط	المحما

v			
ü			1
Doing physical systems	glass.	easily u	- It is a liquid metal that can be se
- hue	3	throu	liquid
20100		through the thermomete	metal
-	þ	ther	that
		mon	San
		19	8
		4	8

be seen

- Stay away from sources of pollution.
- 3.

 Femur.

 Foot bones. Shaft bones.
- Variable Its effect is to the Earth.

Constant

ä Fayoum Governorate

- (A) 1. kilogram (or gram) Newton 2, the brain - skull.
- green plants photosynthesis
- (B) 1. It protects the heart and the lungs 2. It is used in welding and cutting metals.
- (A) 1. b. Copper. 3. b. 1 Newton. 5. d. cerebellum. 2. c. Elbow. 4. b. Nitrogen.

(A) 1. Spinal cord

Nitrogen gas.

Carbon dioxide gas.

Tendons.

Heat insulators

Temperature.

Direction:

It has no effect

the centre of the always towards

Earth.

places:

- (B) 1. Iron will combine with oxygen in the
- presence of water, so iron will rust.

 2. The nervous system will be exhausted as they lead to nervous tension and
- (A) 1. The 3, merc

periods.

- 4. manganese dioxide. 5. 12 pairs.
- (B) 1. Because nitrogen scarcely dissolves in water.
- measurement easily.
- (A) 1. Weight.
- Heat insulators.
- (B) 1. Calcium carbonate.
- ① It is used in making soft drinks.
 ② It is used in extinguishing fires.

6 Beni-Suef Governorate

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(B) 1. – It is good conductor of heat.

- It doesn't stick to the walls of the It is a regular expanding material.

capillary tube.

The weight of the body will decrease

formed

د اک رواله

2+2-8

46

- 4. cell body axon

affect the heartbeats and the sleeping

ž	nass.
	2. fatty.

- 2. To prevent mercury to return back quickly to the bulb, so we can read the
- Ozone gas.
 Nitrogen gas
- Spinal cord.

(A) 1. Carbon dioxide is produced during

fermentation, so the bread becomes

Due to the formation of calcium

carbonate which is insoluble in water.

osteomalacia and rickets.

To prevent bone diseases such as

temperature changes.

2. Protein substance that builds up the

porous and tasty.

bodies of all living organisms is not

- Dilute hydrochloric acid

- (A) 1. pressure cooling.

hotness – coldness mass – spring.

(A) 1. Because it controls all the involuntary processes such as heartbeats.

Because yeast produces carbon porous and tasty. expands by heat making the bread dioxide during fermentation, that

 Because it causes relative constancy Because these muscles work their movement. automatically and you can't control

of the volume of car tires when the

temperature changes.

(A) 1. c. air. 4. a. - 39:357 3. a. slightly movable. 2. a. 4 kg.

(B) 1. Reflex action 3. Mercury. 4. Weight. 2. Tendons.

 (A)
 ○ Cerebrum. Medulta oblongata. @ Cerebellum.

 To keep the balance of the body during movement.

ê

2. Example : Iron rusting	1. Definition :	Points of comparison
Iron rusting	It is a slow combination (union) between oxygen and element in the presence of moisture (water)	Oxidation
Burning a piece of cleansing wire	tt is a slow combination (union) between (union) between oxygen and element in the presence of moisture (water) It is a rapid combination (union) between oxygen and oxygen and element producing heat and light.	Burning

7 El-Minia Governorate

- 1. balance scale -Newton.
- 2.78%-21%
- 3. 31 pairs.
- spring scale.
- hydrogen peroxide manganese dioxide.
- 1. Joints. Oxygen gas.
- Medical thermometer.

(A) 1. A white substance will produce Limewater turns milky due to the

Guide Answers of Final Exams

(B) 1. Because aluminium is good conductor is insoluble in water.

formation of calcium carbonate which

السادس

- of heat, while plastic and wood are bad conductors of heat.
- ω Because it protects the Earth from Because it controls all the involuntary harmful radiation coming from the Sun. processes such as heartbeats.
- (A) 1. carbon dioxide. dilute hydrochloric acid. calcium carbonate.
- (B) 1. Weight on Earth = mass x 10 2. Weight on Moon = Weight on Earth x 2 = 30 × 10 = 300 Newton = 300 × = 50 Newton.
- (C) 1. (×) 3 3

8 **Assiut Governorate**

1. Newton - kilogram (or gram) Nitrogen – oxygen.

Care

- 3. the brain skull. 4. energy. 5. 12
- (A) 1. a. Earth. 3. c. all the previous. b. iron

4-300

5. b. 100 Newton. 6. a. 21 %

c. carbon dioxide.

- (B) 1. They allow the movement between bones.
- It protects the Earth from harmful radiation that come from the Sun.
- (A) 1. Carbon dioxide. Mass. 2. Tendons
- Celsius thermometer.
- 2.8 3.0
- (B) 1. b
- (A) ① White matter. Gray matter.
- (B) 1. Because aluminium allow the flow of heat through as it is a good conductor of heat.
- Because it causes relative constancy of the volume of car tires when the temperature changes.

47





- (C) 1. Iron will combine with oxygen in the presence of water, so the iron nail will
- 2. The mercury will return back quickly to the bulb before determining the temperature reading.

Sohag Governorate

(A) 1. a. Elbow. 3. c. carbon. c. fertilizers.

(B) 1. Iron will combine with oxygen in the

- 2. a. 50. 4. d. plastic.
- presence of water, so iron will rust.

 2. The nervous system will be exhausted affect the heartbeats and sleeping as they lead to nervous tension and
- Mercury will return back quickly to the mercury bulb and we can't read the temperature correctly.
- (A) 1. Hydrogen peroxide.
- 2. Spring scale. Heat conductors. 5. Nitrogen gas 3. Reflex action
- (B) 1. dilute hydrochloric acid.

calcium carbonate.

- Carbon dioxide gas is collected by upward displacement of air because it is heavier than air and easily dissolves in water.
- (A) 1. bone. measure the temperature of human 2. Nitrogen. 3. 31 - 12
- body measure the temperature of liquids.
- (B) 1. Weight on Earth = Mass x 10
- = $12 \times 10 = 120$ Newton. 2. Weight on Moon = Weight on Earth $\times \frac{1}{6}$ = $120 \times \frac{1}{6} = 20$ Newton.
- (A) 1. To protect the heart and the lungs. Because it protects the Earth from
- any object will change from a planet Because the gravity of a planet to another. depends on its mass, so the weight of harmful radiation coming from the Sun.

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To prevent the leakage of heat as air is bad conductor of heat.

فراك روايه

8

- (B) 1. blood vessels muscles
- oxygen.
- cerebrum.

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- (A) 1. hydrogen peroxide manganese dioxide.
- the place. 3. Celsius.
- central nervous system peripheral nervous system.
- 2. They prevent friction between vertebrae during movement.
- 5.3
- read the temperature easily. quickly to the mercury bulb, so we can
- and doesn't help in burning.
- processes such as heartbeats
- (A) 1. b. copper.
- 4. c. nitrogen
- (B) 1. Mass on the Moon = 30 kg.
- = 30 × 10 = 300 Newton.
- 3. Weight on Moon = 1 × Weight on Earth
- $=\frac{1}{6} \times 300 = 50$ Newton
- (A) 1. Spinal cord.
- 4. Heat conductors. 5. Mass
- (B) () Femur.

2 Luxor Governorate

- 4. the brain skull

Qena Governorate

- (B) 1. It is used in welding and cutting metals
- 2 (A) 1. (X) 2. (×)
- (B) 1. To prevent mercury from going back
- Because carbon dioxide doesn't burn
- 3. Because it controls all the involuntary
- 2. b. 100
- 3. c. 12 pairs.
- 5. a. spring scale.
- 2. Weight on Earth = Mass × 10
- Heat energy.
- Carbon dioxide gas.
- Foot bones ② Shaft bones

- 0 1. 35 42
- Backbone cartilages
- 3. gravity weight

- (A) 1. Involuntary muscles
- Nitrogen. Spinal cord.
- 4. Ozone gas.
- Mercury. Appendicular skeleton.
- (B) 1. Because oxygen scarcely dissolves in Because it controls the involuntary water.
- processes such as heartbeats.
- (A) 1. (x) 2(1) 3. (×) 4. (x)
- (B) 1. c. iron. 3. a. fertilizers. a. oxygen. b. slightly movable.
- (A) 1. The mass on the moon's surface = 30 kg 2. The weight on the Earth's surface = its Mass x 10 = 30 x 10

= 300 Newton

- (B) 1. carbon dioxide gas.
- Carbon dioxide gas Caldum carbonate

a Aswan Governorate

- (A) 1. 35 42
- carbon dioxide oxygen.
- 3. wood plastic.
- 4. the skull the ribcage
- 5. place. - the backbone
- (B) 1. It is used in welding and cutting metals 2. It prevent friction between bones during movement.
- (A) 1. c. 100
- 3. b. Copper. 2. a. carbon.
- c. gives limited extent to measure temperature.
- d. spinal cord.
- (B) 1. Because it protects the Earth from Sun. harmful radiation coming from the
- 2. Because it controls all the involuntary processes such as heartbeats.

- (A) 1. Heat conductors
- Nitrogen gas. 5. Reflex action 2. Weight. 3. Tendons.

الصف السادس

Guide Answers of Final Exams

- (B) 1. Iron will combine with oxygen in the presence of water, so the iron nail will
- The nervous system will be exhausted.
- 9:3 3 2.(x) 3.(V)
- (B) 1. calcium carbonate. 5. (×)

dilute hydrochloric acid

2. It is used in making soft drinks

28 New Vallay Governorate

- (A) 1. a body is attracted.
- Oxygen.
- Celsius.
- (B) 1. It is used in cutting and welding Nitrogen. metals.
- 2. It is used to measure the weight of objects.

Care

- It removes oxygen from atmospheric air by combining with it.
- It protects the Earth from harmfu radiation coming from the Sun.
- 2 (A) 1. c. shaft. a. increases
- c. mercury.
- 4. b. 31 pairs.
- (B) It causes :

nervous tension.

(C) 1. To protect them from rusting. sleepiess.

Because carbon dioxide doesn't burn

- and doesn't help in burning.
- **◎ ≥** : 3 3 9 P 33 3. (×)
- (B) 1. Limewater turbids due to the Train accidents will occur. formation of calcium carbonate.

A white substance is produced which



49 | المعلمور ملرم لنات (Guido Anemore) / ٢ ب/ تيرم ١ (م: ٤)

التعليمي ويسمح بمشاركته فقط ولا يسمح بتداوله على الانترنت هذا العمل حصري على موقع ذاكرولي ا



reacts with water forming ammonia gas.

Ð E

e the that 'e and ant.	Points of	comparison		Definition:	Example :
They are the musch that can in automatic you can't or even a their mow	Voluntary	muscles	They are the muscles that can move	willingly and you can control its movement.	- Face muscles.
es Nove ally and control ware of ensent essels	Involuntary	muscles	They are the muscles that can move	you can't control or even aware of their movement	 Blood vessels muscles.

- (B) 1. Weight on Earth = Mass x 10
- Mass = 300 = 30 kg. 300 = Mass × 10
- = 2 × 300 = 50 Newton
- (C) 1.

 O Transparent thick glass tube Mercury bulb.
- Capillary tube.
- 1. measuring the temperature of human body.

2.35-42

● (A) 1.35-42 3. 78

oxygen.

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South Sinai Governorate

- 4. plastic wood
- (B) 1. To protect the heart and the lungs. 2. Because oxygen scarcely dissolves in
- water.

	T.
Pol	ĉ
its o	3
•	
100	
18	
THE REAL PROPERTY.	

The second name of the second na	Device : Balance scale. Spring	Points of Mass V	
Some fer	electo la	Weight	-

- (A) 1. (x) ... faster than iron
- 3
- 3. (x) Nitrogen gas ...
- 4. (x) The mass is constant ...

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- (B) 1. They are used in making cooking pots.
 2. They are used in making handles of cooking pots.

cic Month

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- (C) 1. Celsius thermometer.
- Mercury. It is used to measure the temperature of liquids.
- 2. c. oxygen.
- (A) 1. a. 2 kg. 2. c. ox 4. d. carbon dioxide. 3. b. glass.
- (B) 1. The withdrawal of your hand will occur.2. The temperature of the Earth will increase and living organisms will
- (C) 1. They prevent friction between It is used in making fertilizers. vertebrae (bones) during motion

suffocate.

- (A) 1. Weight.
- Carbon dioxide gas
- Backbone. 4. Oxygen gas
- 2. d 3. a

23 North Sinai Governorate

- (A) 1. 33 3. Celsius thermometer. 2, the brain
- 5. 78 The mass of body. 6. oxygen.
- (B) 1. Because carbon dioxide gas doesn't burn and doesn't help in burning.
- 2. Because aluminium allow the heat to of heat. flow through as it is a good conductor
- (A) 1. Mass.
- 3. Joints. 4. Spinal cord.

2. Ozone gas.

- 5. Nitrogen. Carbon dioxide
- (B) 1. It is the degree of hotness or coldness of a body.
- 2. They are materials that don't let heat flow through.
- (A) 1. b. oxygen. 2. b. thigh
- 3. d. two cerebral hemispheres.
- 4. c. 100 b. fertilizers
- 6. b. copper.

(B) 1. It is used to measure the weight of

an object

It protects the heart and the lungs

ويسمح بمشاركته فقط ولا يسمح بتداوله على الانترنت

2+2-8

(A) 1. b 2. d

- (B) 1. Iron will combine with oxygen in the TUST. presence of water, so the iron nail will
- The nervoues system will be harmed affect the heartbeats and the sleeping as they lead periods. to nervous tension and

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- (A) 1. kilogram (or gram) 2. 35 - 42
- respiration burning 3. 12
- (B) 1. It is used to measure the weight of

objects.

- (A) 1. b. thigh. 2. It is responsible for the reflex action. 2. c. nitrogen.
- 3. c. copper. 4. b. cerebellum.
- 5. c. glass and wood.
- 6. a. oxygen.
- (B) 1. The temperature of the Earth will increase and living organisms will suffocate.
- 2. The nervous system will be exhausted as they lead to nervous tension and affect the heartbeats.
- (A) 1. Weight on Earth = Mass x 10 = 30 × 10 = 300 Newton 2. Weight on Moon = Weight on Earth × 1
- = 300 × 6 = 50 Newton
- (B) 1. Heat conductors.
- Carbon dioxide gas.
 Celsius thermometer.
 Findons.
 Neuron.
- 6. Atmospheric air.
- (A) 1. mercury. 2. Oxygen.
- 3. 33 vertebra.
- photosynthesis process. 5. three. 6. plastic.
- (B) 1. To prevent mercury from going back quickly to the bulb, so we can read
- the measurement easily.
- Because the Earth has greater mass and gravitational force than the Moon.

Matrouh Governorate

الصف السادس

Guide Answers of Final Exams

- (A) 1. energy
- 2. kilogram (or gram) Newton. The brain.
- 4. 21 78
- (B) 1. It protects the heart and the lungs It is used in welding and cutting
- (A) 1. b. copper. b. nitrogen. 2. a. 15 kg. 4. b. Wood.
- (B) 1. Because it causes relative constancy temperature changes. of the volume of car tires when the
- Because it is good conductor of heat Because it protects the Earth from harmful radiation coming from the Sun.

and it is a regular expanding material.

- (A) 1. Carbon dioxide. Nitrogen gas. 3. Spinal cord
- (B) 1. Weight on Earth = Mass x 10 Reflex action.Heat conductors.

محروث

- Mass = 180 = 19 kg 190 = Mass × 10
- (A) 1. (x) ... is 12 pairs.
- 2. (x) three oxygen otoms
- 3. (x) ... from the hot object to the cold object.
- 4. (x) ... slightly movable joint
- (B) (Dendrites. Axon terminals. Axon.
 neuron
- تفوقك في أي مذكرة عليها العلامة دي المالية العلامة المالية ال

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